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FLOOD INSURANCE STUDY

BURNET COUNTY TEXAS AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
BURNET, CITY OF	480092
COTTONWOOD SHORES, CITY OF	481614
GRANITE SHOALS, CITY OF	481149
MARBLE FALLS, CITY OF	480093
MEADOWLAKES, CITY OF	481613
UNINCORPORATED AREAS	481209

NOVEMBER 16, 1990

Federal Emergency Management Agency

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program (NFIP) have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

Part or all of this FIS may be revised and republished at any time. In addition, part of this FIS may be revised by the Letter of Map Revision (LOMR) process, which does not involve republication or redistribution of the FIS. It is, therefore, the responsibility of the user to consult with community officials and to check the community repository to obtain the most current FIS components.

Initial Countywide Flood Insurance Study Effective Date: November 16, 1990

Flood Insurance Study Revised:

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FLOOD INSURANCE STUDY
BURNET COUNTY AND INCORPORATED AREAS, TEXAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the geographic region of Burnet County, Texas, including the Cities of Burnet, Cottonwood Shores, Granite Shoals, Marble Falls, and Meadowlakes; and the unincorporated areas of Burnet County (hereinafter referred to collectively as Burnet County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. The City of Bertram is non-flood-prone. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates and assist the community in its efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program (NFIP) are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the State (or other jurisdictional agency) will be able to explain them.

1.2 Authority and Acknowledgments

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this study were prepared by the Fort Worth District of the U. S. Army Corps of Engineers (COE) for the Federal Emergency Management Agency (FEMA), under Inter-Agency Agreements No. EMW-E-1153 and EMW-83-E-1153, Project Order No. 1. The work done under Inter-Agency Agreement No. EMW-E-1153 was completed in November 1987. Work done under Inter-Agency Agreement No. EMW-83-E-1153, for the Cities of Granite Shoals and Marble Falls, was completed in August 1987 and September 1987, respectively.

1.3 Coordination

On July 26, 1983, an initial Consultation and Coordination Officer's (CCO) meeting was held with representatives of FEMA; the Cities of Burnet, Granite Shoals, and Marble Falls; the COE (the study contractor); the Texas Water Commission; and the Lower Colorado River Authority to determine the streams to be studied by detailed methods.

The following agencies were contacted for information pertinent to this study: the U. S. Geological Survey (USGS); the Soil

Conservation Service (SCS); Greenhorne & O'Mara, Inc.; Dewberry & Davis; the Texas Water Commission; the University of Texas at Austin; the U. S. Coast and Geodetic Survey (USC&GS); the Bureau of Reclamation, Burnet County; the Cities of Marble Falls and Granite Shoals; and the Texas Department of Highways and Public Transportation.

On February 17, 1989, a final CCO meeting was held with representatives of FEMA, the county, and the study contractor to review the results of the study.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the geographic area of Burnet County, Texas. The area of study is shown on the Vicinity Map (Figure 1).

The stream name and the limits of detailed study for each riverine flooding source studied by detailed methods are shown in Table 1, "Scope of Study."

TABLE 1 - SCOPE OF STUDY

Stream	Limits of Detailed Study
Backbone Creek	from its confluence with the Colorado River to a point approximately 8.7 miles upstream
Belaire Creek	from its confluence with the Colorado River to a point approximately 1.1 miles upstream
Coldspring Creek	from its confluence with Backbone Creek to a point approximately 3.2 miles upstream
the Colorado River (including Lake Travis, Lake Marble Falls, Lake Lyndon B. Johnson, Inks Lake, and Lake Buchanan)	for its entire length within the county
Daugherty Branch	from its confluence with Hamilton Creek to a point approximately 2.2 miles upstream
Dry Branch	from its confluence with Dry Creek to a point approximately 3.2 miles upstream
Dry Creek	from its confluence with Backbone Creek to a point approximately 3.4 miles upstream
Elm Creek	from its confluence with the Colorado River to a point approximately 3.7 miles upstream
Hamilton Creek	from its confluence with the Colorado River to a point approximately 1.2 miles upstream of its confluence with Stream HC(B)-4
Haynie Branch	from its confluence with Hamilton Creek to a point approximately 270 feet upstream of Geneva Drive

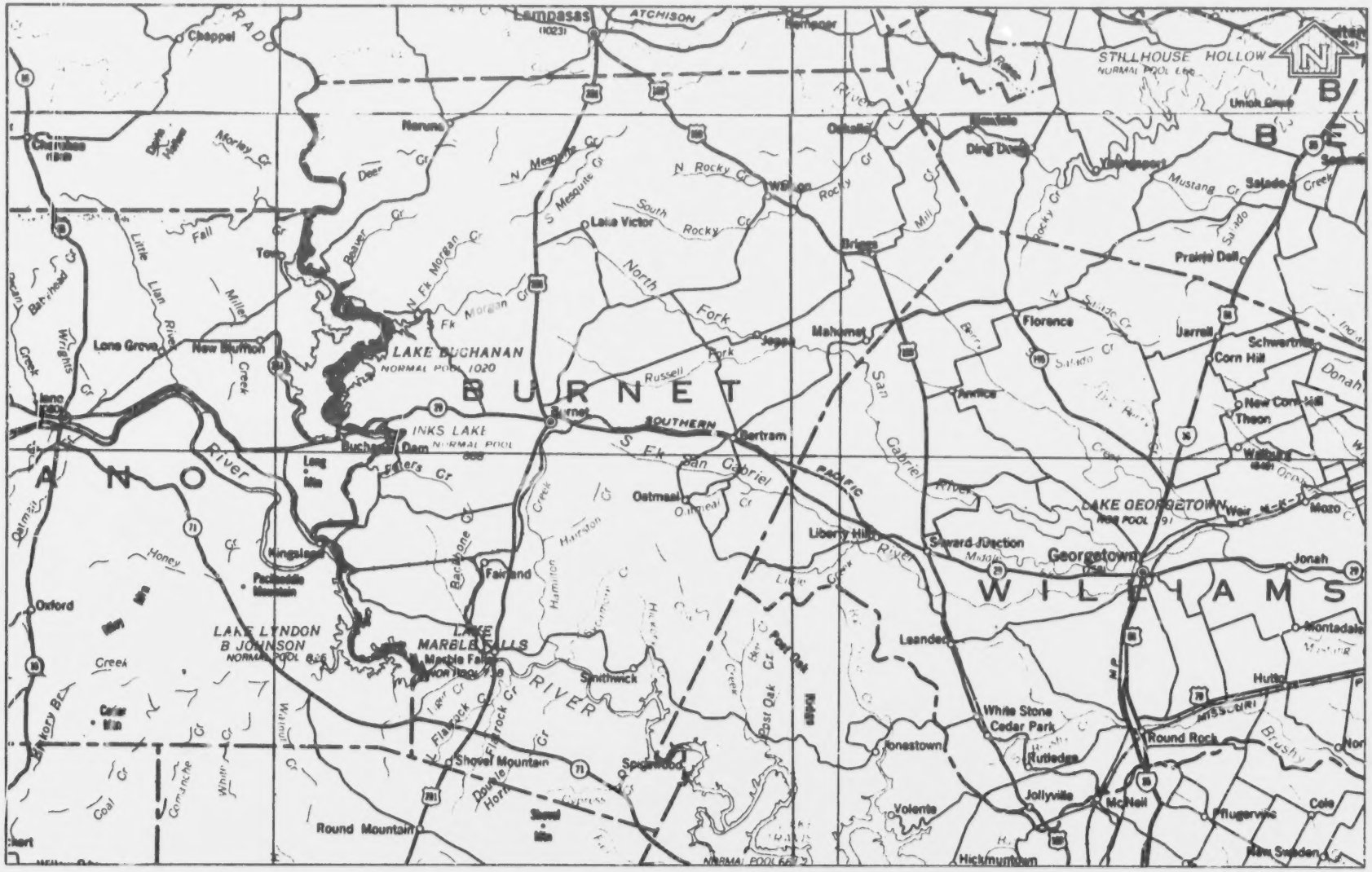


FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

APPROXIMATE SCALE

8 0 8 16 24 MILES

VICINITY MAP

TABLE 1 - SCOPE OF STUDY - continued

Stream	Limits of Detailed Study
Spareribs Creek	from its confluence with Backbone Creek to a point approximately 3.5 miles upstream
Stream BC-1	from its confluence with Backbone Creek to a point approximately 0.5 mile upstream
Stream BC-2	from its confluence with Backbone Creek to a point approximately 2.4 miles upstream
Stream BC-3	from its confluence with Backbone Creek to a point approximately 2.7 miles upstream
Stream DC-1	from its confluence with Dry Creek to a point approximately 0.6 mile upstream
Stream DC-2	from its confluence with Dry Creek to a point approximately 1.4 miles upstream
Stream EC-1	from its confluence with Elm Creek to a point approximately 1.0 mile upstream
Stream EC-2	from its confluence with Elm Creek to a point approximately 0.5 mile upstream
Stream EC-3	from its confluence with Stream EC-4 to a point approximately 0.5 mile upstream
Stream EC-4	from its confluence with Elm Creek to a point approximately 1.0 mile upstream
Stream EC-5	from its confluence with Elm Creek to a point approximately 0.8 mile upstream
Stream EC-6	from its confluence with Elm Creek to a point approximately 1.1 miles upstream
Stream EC-7	from its confluence with Elm Creek to a point approximately 0.7 mile upstream
Stream HC(B)-1	from its confluence with Hamilton Creek to a point approximately 1.9 miles upstream
Stream HC(B)-2	from its confluence with Hamilton Creek to a point approximately 0.9 mile upstream
Stream HC(B)-3	from its confluence with Hamilton Creek to a point approximately 0.9 mile upstream
Stream HC(B)-4	from its confluence with Hamilton Creek to a point approximately 1.0 mile upstream
Stream WB-1	from its confluence with Whitman Branch to a point approximately 0.9 mile upstream
Stream WC-1	from its confluence with Williams Creek to a point approximately 1.0 mile upstream
Whitman Branch	from its confluence with Backbone Creek to a point approximately 4.2 miles upstream
Williams Creek	from its confluence with Backbone Creek to a point approximately 1.7 miles upstream

The reservoir above SCS Dam No. 1 and its emergency spillway were studied by detailed methods, and the emergency spillway has been identified as a shallow flooding area. The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development and proposed construction through November 1992.

All or portions of the following flooding sources were studied by approximate methods: Rattlesnake Branch, McCrea Branch, Dry Creek, Station Creek, Sycamore Creek, Alligator Creek, Double Horn Creek, Flatrock Creek, Little Flatrock Creek, Elm Creek, Backbone Creek, Bear Creek, West Branch, East Branch, the South Fork San Gabriel River, the North Fork San Gabriel River, Oatmeal Creek, Hairston Creek, Spring Creek, Clear Creek, Peters Creek, McDaniel Branch, Berry Creek, the Russell Fork San Gabriel River, Cambells Branch, Olive Branch, the Lampasas River, North Rocky Creek, South Rocky Creek, Rocky Creek, Mill Creek, Mesquite Creek, South Mesquite Creek, Miller Branch, Cow Creek, Burnet Creek, Spring Branch, Sulphur Creek, McNett Creek, Greenwood Creek, East Fork Sulphur Creek, Pillar Bluff, Espy Creek, Panther Creek, Panther Den Branch, Beaver Creek, Hamilton Creek, Daugherty Branch, Lake Buchanan, South Fork Morgan Creek, North Fork Morgan Creek, Allen Branch, Pool Branch, Ramsey Nursery Branch, Williams Branch, Sycamore Springs Creek, Haynie Branch, Stream HC(B)-2, Delaware Creek, Long Branch, Honey Creek, Robinson Branch, Stream EC-1, Stream EC-2, Whitman Branch, Coldspring Creek, Stream WB-1, Stream BC-2, Stream BC-1, Tiger Creek, Deep Creek, Hickory Creek, Gridiron Branch, Post Oak Creek, Little Cypress Creek, Red Bluff Creek, Vann Branch, and Deer Creek. Approximate analyses were used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon by, FEMA and Burnet County.

2.2 Community Description

Burnet County, located in south-central Texas, is crossed by the Colorado-Brazos drainage divide, with the Colorado River forming the west and south boundaries. It is bordered by the unincorporated areas of Bell and Williamson Counties to the east, the unincorporated areas of Travis and Blanco Counties to the south, the unincorporated areas of Llano County to the west, the unincorporated areas of San Saba County to the northwest, and the unincorporated areas of Lampasas County to the north. The population of Burnet County was 10,333 in 1950, 9,265 in 1960, 11,420 in 1970, and 19,200 in 1982 (References 1, 2, and 3).

Cattle, sheep, goats, hogs, horses, mules, and poultry are raised extensively on the stock farms and small ranches located within the county. Cotton, corn, forage crops, oats, wheat, spelt, fruits, and vegetables are the chief agricultural products.

The climate is generally classified as semi-arid or steppe, but actually borders on the humid-temperate in some of its characteristics. Extremes in temperatures range from a minimum of 6 degrees Fahrenheit (^{o}F) recorded in 1963 to a maximum of 111°F in 1969. The average annual precipitation over the basin is approximately 20 inches.

The 974-square mile area of the county has a surface that varies from gently rolling to broken and mountainous, with the highest point at an elevation of 1,770 feet. Soils vary from thin red and white mountain wash to rich sandy loam or heavy black wax. The mineral deposits of Burnet County include pink granite, marble, limestone, graphite, ichthyol, copper, and magnesite. The ichthyol and graphite deposits are believed to the be the richest in the United States, but only the granite and magnesite have been extensively developed. The state capitol of Texas, as well as many jetties, shafts, monuments, and other buildings have been constructed from Burnet County material.

Points of interest located within the county include Granite Mountain, the Victoria Dolomite pits, Longhorn Cavern and State Park, and Buchanan and Roy Inks dams. The lakes, created by the erection of these dams by the Colorado River Authority, furnish power and irrigation facilities.

2.3 Principal Flood Problems

Burnet County has experienced loss of physical property and human life as a result of flooding along its major waterways. Development subject to flood damage consists primarily of well-built modern residences or older, more modest houses. There are also some commercial and light industrial establishments that are subject to flooding, especially near the major road crossings. Some undersized bridges, low-water crossings, and small dams are constrictions to flood flow and contribute to flooding problems.

Heavy rainfall from storms along weather fronts is the major cause of flooding, primarily during the spring and summer months. Major flooding can be produced by the intense rainfall usually associated with localized thunderstorms. These thunderstorms may occur at any time during the year, but are more prevalent in the spring and summer months.

On November 5, 1974, one such storm occurred on the Hamilton Creek watershed. This storm caused estimated damages of $50,000 and had a frequency of the 5-year flood event. These estimates were calculated by the SCS.

2.4 Flood Protection Measures

Alvin Wirtz Dam and Lake Lyndon B. Johnson, formerly Granite Shoals Lake, were completed in 1951. The project is owned and operated by the Lower Colorado River Authority primarily for the purpose of generating hydroelectric power. It is one of a series of six projects on the Colorado River. The other five are Buchanan Dam and Buchanan Lake, Roy Inks Dam and Inks Lake, Max Starke Dam and Lake Marble Falls, Mansfield Dam and Lake Travis, and Tom Miller Dam and Lake Austin.

Buchanan Dam and Buchanan Lake, on the Colorado River between Burnet and Llano Counties, were completed in 1938 under the conservation program of the Colorado River Authority. The lake has a capacity of 992,000 acre-feet.

Max Starke Dam and Lake Marble Falls, located at the upper end of Lake Travis, are primarily used for the purpose of generating hydroelectric power. Construction was completed in 1951. The lake has a capacity of 8,760 acre-feet.

Roy Inks Dam and Inks Lake are ten miles west of the City of Burnet on the Colorado River, and four miles below Buchanan Dam. Inks Lake has a capacity of 17,000 acre-feet and is considered constant-level; however, during periods of flooding the lake level will vary considerably.

Lake Travis, ten miles northwest of Austin, is impounded by Mansfield Dam. The lake has a capacity of 1,950,000 acre-feet and is used for flood control, irrigation, and as a source of water power for the generation of electric current.

Tom Miller Dam and Lake Austin are on the Colorado River at the western edge of the corporate limits of the City of Austin, in Travis County. The lake has a capacity of 20,000 acre-feet and was the first large reservoir constructed in Texas. The present dam was constructed by the Lower Colorado River Authority in 1940 as a flood control, electric power-generating, and municipal supply project.

The SCS is constructing three dams. SCS Dam No. 1 lies within the City of Burnet on Daugherty Branch and is currently under construction. SCS Dam No. 2 lies on Hamilton Creek and is also currently under construction. SCS Dam No. 3 is under construction on Stream HC(B)-4.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude which are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10, 2, 1, and 0.2 percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (1 percent chance of annual exceedence) in any 50-year period is

approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency and peak elevation-frequency relationships for each flooding source studied in detail affecting the community.

The computer program NUDALLAS was used in developing the hydrology for the streams studied by detailed methods, with the exception of the Colorado River (Reference 4). The watershed was divided into subbasins, and synthetic unit and flood hydrographs were developed at selected locations. National Weather Service Technical Paper No. 40, National Oceanic and Atmospheric Administration (NOAA) Technical Memorandum NWS Hydro-35, and COE Bulletin EM 1110-2-1411 were used in developing the 10-, 50-, and 100-year frequency storms (References 5 and 6). The 500-year storm was based on extrapolated data. Peak discharge-frequency values were computed for selected locations. Routing of the flood hydrographs through each subbasin reach, including the reservoir above SCS Dam No. 1, was accomplished using a modified PULS reservoir routing procedure. The HEC-2 backwater model provided the elevation-discharge-storage relationships for all streams studied by detailed methods and for the reservoir above SCS Dam No. 1 (Reference 7).

The flood hydrographs for the Colorado River were derived from statistical analysis of peak and volume discharges. The statistical results were combined to define balanced hydrographs, where the probability of peak flow is consistent with the probability of 1-day, 2-day, 3-day, or 4-day volumes within the hydrographs. The 100-year flood for the Llano River at Llano was routed to the confluence with the Colorado River. The routed 100-year Llano River hydrograph was deducted from the 100-year Colorado River hydrograph (below the confluence) to obtain a coincident hydrograph on the Colorado River (above the confluence). A second iteration was obtained by deducting the 100-year Colorado River hydrograph (above the confluence) from the 100-year Colorado River hydrograph (below the confluence) to obtain the coincident hydrograph from the Llano River. Both iterations were routed by the Lower Colorado River Authority (LCRA) model and the highest water surfaces obtained were used for the base (100-year) flood elevations. It should be noted that the Llano River 100-year flood routing established the critical water-surface elevations for the base flood on the Colorado River from river mile 403.74 downstream to the Pedernales River confluence with the Colorado River.

A summary of drainage area-peak discharge relationships for the streams studied by detailed methods are shown in Table 2, "Summary of Discharges." Discharges for Backbone Creek, Dry Branch, Stream HC(B)-4, Hamilton Creek, and Daugherty Branch (below SCS Dam No. 1) decrease downstream due to effects of storage.

TABLE 2 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
BACKBONE CREEK					
Above Lake Marble Falls	40.81	18,000	26,900	31,500	38,300
Above confluence of Whitman Branch	34.65	15,800	23,400	27,500	33,500
Above confluence of Stream BC-1	33.16	15,800	23,250	27,300	33,100
Below confluence of Stream BC-2	32.44	15,900	23,400	27,500	33,250
Above confluence of Stream BC-2	30.68	15,450	22,700	26,650	32,250
Below confluence of Coldspring Creek	30.55	15,500	22,750	26,750	32,400
Above confluence of Coldspring Creek	27.73	14,500	21,300	24,950	30,200
Above confluence of Williams Creek	25.28	14,000	20,350	23,800	28,800
Above confluence of Dry Branch	16.10	9,450	14,300	16,850	20,850
Below confluence of Spararib Creek	15.87	9,600	14,550	17,200	21,250
Above confluence of Spararib Creek	12.51	7,300	10,650	12,400	14,900
Below confluence of Stream BC-3	11.94	7,900	11,400	13,250	15,850
Above confluence of Stream BC-3	6.27	4,450	6,400	7,400	8,850
Above County Route 120	5.89	4,800	6,750	7,800	9,200
Approximately 3,200 feet above Southern Pacific Railroad	5.32	4,700	6,550	7,500	8,800
BELAIRE CREEK					
At confluence with the Colorado River at Lake Lyndon B. Johnson	0.29	550	700	800	900

TABLE 2 - SUMMARY OF DISCHARGES - continued

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
COLDSPRING CREEK					
Above confluence with Backbone Creek	2.82	2,280	3,260	3,780	4,540
Above unnamed tributary on right bank and Shifflett Road	2.45	2,020	2,860	3,330	3,980
Approximately 6,120 feet upstream of Shifflett Road and below unnamed tributaries on left bank	2.05	1,850	2,600	2,970	3,490
Approximately 6,100 feet upstream of Shifflett Road and above unnamed tributaries on right bank	1.59	1,490	2,090	2,390	2,800
Above unnamed tributary on left bank at lower water crossing	1.02	1,510	2,050	2,300	2,620
COLORADO RIVER*					
At Inks Dam	**	66,865	126,756	161,410	304,101
At Alvin Wirtz Dam	**	117,938	59,824	330,269	481,505
At Max Starke Dam	**	117,741	268,336	329,033	480,512
DAUGHERTY BRANCH					
At confluence with Hamilton Creek	2.54	1,160	1,570	1,770	2,020
At Wood Street	2.26	860	1,150	1,290	1,490
At Farmers Market 983 (Graves Street)	1.90	500	660	750	850
Outflow from SCS Dam No. 1	1.75	100	120	355	820
Inflow to SCS Dam No. 1	1.75	2,910	3,910	4,370	4,960
Downstream of confluence of left bank tributary located approximately 1,300 feet upstream of SCS Dam No. 1	1.16	1,850	2,490	2,790	3,170
Upstream of confluence of left bank tributary located approximately 1,300 feet upstream of SCS Dam No. 1	0.76	1,190	1,600	1,790	2,030

*Discharges affected by operational plan of Highland Lakes System
**Data not available

TABLE 2 - SUMMARY OF DISCHARGES - continued

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
DRY BRANCH					
Above confluence with Backbone Creek	8.91	5,050	6,900	7,750	9,000
Below confluence of Dry Creek	8.78	5,150	7,000	7,900	9,200
Above confluence of Dry Creek	5.34	3,150	4,000	4,350	4,800
Below unnamed tributary on right bank immediately above County Road	4.74	3,790	5,430	6,280	7,610
Below unnamed tributary on right bank, approximately 1,200 feet above private road low water crossing	4.43	3,770	5,360	6,180	7,320
Approximately 500 feet above Southern Pacific Railroad	3.77	3,540	4,930	5,630	6,590
DRY CREEK					
At confluence with Dry Branch	3.44	2,350	3,440	4,000	4,830
Below confluence of DC-1	3.21	2,270	3,320	3,880	4,660
Below confluence of DC-2	1.68	1,200	1,730	2,000	2,400
Approximately 3,350 feet above confluence of DC-2	1.33	1,060	1,490	1,710	2,020
ELM CREEK					
Below confluence of Stream EC-1	5.97	4,280	6,100	7,050	8,500
At Lake Lyndon B. Johnson	5.40	3,800	5,550	6,450	7,700
Below confluence of Stream EC-2	5.10	3,650	5,350	6,200	7,400
Above confluence of Stream EC-2	4.84	3,500	5,100	5,950	7,100
Above confluence of Stream EC-4	4.03	3,000	4,300	5,000	5,950

TABLE 2 - SUMMARY OF DISCHARGES - continued

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
ELM CREEK (continued)					
Below confluence of Stream EC-5	4.01	2,950	4,300	5,000	6,000
Below confluence of Stream EC-6	3.36	2,550	3,700	4,250	5,100
Above confluence of Stream EC-6	2.66	2,850	2,900	3,400	4,050
Below confluence of Stream EC-7	2.61	2,850	2,950	3,400	4,050
Above confluence of Stream EC-7	1.66	1,250	1,800	2,100	2,500
HAMILTON CREEK					
Downstream of confluence of left bank tributary located approximately 200 feet downstream of confluence of Stream HC(B)-1	22.62	12,380	18,110	21,200	25,640
Downstream of confluence of Stream HC(B)-1	18.17	9,250	13,710	,130	19,640
Upstream of confluence of stream HC(B)-1	16.56	8,300	12,220	,400	17,570
Downstream of confluence of Haynie Branch	13.73	8,800	12,420	14,350	17,090
Upstream of confluence of Haynie Branch	12.72	7,910	11,210	12,970	15,480
Downstream of confluence of Stream HC(B)-2	12.17	7,860	11,060	12,760	15,220
Upstream of confluence of Daugherty Branch	9.09	6,850	9,600	11,080	13,000
Downstream of confluence of right bank tributary located approximately 1,600 feet upstream of confluence of Daugherty Branch	9.01	6,800	9,570	11,100	13,090
Upstream of confluence of right bank tributary located approximately 1,600 feet upstream of confluence of Daugherty Branch	8.71	6,640	9,280	10,680	12,590

TABLE 2 - SUMMARY OF DISCHARGES - continued

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
HAMILTON CREEK (continued)					
Downstream of confluence of Stream HC(B)-3	8.22	6,740	9,340	10,670	12,390
Upstream of confluence of Stream HC(B)-3	7.25	5,610	7,800	8,920	10,380
Upstream of confluence of right bank tributary located approximately 900 feet upstream of confluence of Stream HC(B)-3	6.21	4,430	6,190	7,070	8,240
Downstream of confluence of Stream HC(B)-4 and adjacent left bank tributary	5.19	3,760	5,180	5,870	6,730
Upstream of confluence of Stream HC(B)-4 and adjacent left bank tributary	1.94	420	585	670	915
At outflow from SCS Dam No. 2	1.65	105	125	395	835
At inflow to SCS Dam No. 2	1.65	2,350	3,180	3,580	4,070
HAYNIE BRANCH					
At confluence with Hamilton Creek	1.01	1,540	2,210	2,390	2,740
At State Route 29 (Polk Street)	0.54	1,030	1,410	1,570	1,810
Approximately 1,600 feet downstream of the eastern corporate limits of the City of Burnet	0.23	590	770	850	1,030
SPARERIB CREEK					
Above confluence with Backbone Creek	3.36	2,700	4,350	5,400	7,050
Above right bank tributary	2.98	2,550	3,650	4,300	5,150
At Southern Pacific Railroad upstream of County Route 120	1.99	2,500	3,400	3,850	4,400

TABLE 2 - SUMMARY OF DISCHARGES - continued

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
STREAM BC-1					
Above confluence with Backbone Creek and approximately 1,000 feet below Avenue S	1.36	1,860	2,550	2,850	3,300
Approximately 1,700 feet above Avenue S	0.48	800	1,050	1,190	1,350
STREAM BC-2					
Above confluence with Backbone Creek	1.76	1,800	2,500	2,900	3,400
Approximately 5,700 feet above Broadway Street	1.42	1,550	2,150	2,450	2,850
At Shifflett Road	1.14	1,350	1,850	2,100	2,400
STREAM BC-3					
Above confluence with Backbone Creek	5.67	3,800	5,450	6,300	7,600
Above Southern Pacific Railroad and below left bank tributary	4.88	3,450	4,950	5,750	6,850
Above Farmers Market 1855 (County Route 120) and below left bank tributary	2.37	1,700	2,400	2,800	3,300
Approximately 1,700 feet above Southern Pacific Railroad	1.61	1,400	1,950	2,250	2,650
STREAM DC-1					
Above confluence of Dry Creek	0.36	480	650	740	840
STREAM DC-2					
At confluence with Dry Creek	1.06	950	1,360	1,570	1,850
Approximately 6,300 feet above confluence with Dry Creek	0.71	970	1,060	1,204	1,400

TABLE 2 - SUMMARY OF DISCHARGES - continued

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
STREAM EC-1					
At confluence with Elm Creek at Lake Lyndon B. Johnson	0.57	850	1,150	1,300	1,500
At Baker Drive	0.32	550	700	800	900
STREAM EC-2					
At confluence with Elm Creek	0.26	350	500	550	650
At headwaters	0.21	300	450	500	550
STREAM EC-3					
At confluence with Stream EC-4	0.26	400	550	600	700
STREAM EC-4					
At confluence with Elm Creek	0.80	850	1,200	1,400	1,600
Approximately 750 feet downstream of Valley View Lane	0.25	400	500	550	650
STREAM EC-5					
At confluence with Elm Creek	0.57	700	950	1,050	1,250
At headwaters	0.41	600	800	900	1,050
STREAM EC-6					
At confluence with Elm Creek	0.70	750	1,050	1,200	1,400
At Farmers Market 1431	0.55	700	950	1,100	1,250
STREAM EC-7					
At confluence with Elm Creek	0.95	900	1,250	1,450	1,700
At headwaters	0.79	750	1,050	1,250	1,450
STREAM HC(B)-1					
At confluence with Hamilton Creek	1.61	1,720	2,380	2,700	3,160
At U. S. Route 281 (Marble Falls Road)	0.91	1,520	2,030	2,270	2,570
STREAM HC(B)-2					
At confluence with Hamilton Creek	0.53	960	1,280	1,440	1,650
Approximately 500 feet downstream of northwestern corporate limits of City of Burnet	0.26	630	820	910	1,090

TABLE 2 - SUMMARY OF DISCHARGES - continued

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
STREAM HC(B)-3					
At confluence with Hamilton Creek	0.97	1,420	1,920	2,170	2,470
At Old San Saba Road	0.64	970	1,300	1,460	1,660
STREAM HC(B)-4					
At confluence with Hamilton Creek	2.24	2,110	2,870	3,240	3,810
Upstream of left bank tributary located approximately 250 feet upstream of confluence with Hamilton Creek	1.61	1,370	1,860	2,100	2,500
Upstream of left bank tributary located approximately 2,700 feet upstream of confluence with Hamilton Creek	0.78	590	800	900	1,230
At outflow from SCS Dam No. 3	0.63	100	115	120	415
At inflow into SCS Dam No. 3	0.63	1,330	1,760	1,960	2,280
STREAM WB-1					
Above confluence with Whitman Branch	1.39	2,100	2,850	3,200	3,650
Approximately 980 feet above North 12th Street	0.84	1,480	1,980	2,210	2,510
STREAM WC-1					
At Southern Pacific Railroad and above right bank tributary	0.40	500	700	800	900
WHITMAN BRANCH					
Above confluence with Backbone Creek	6.00	5,000	7,000	8,050	9,550
Below confluence of Stream WB-1 and at Broadway Street	5.79	5,600	8,050	9,300	11,000
Above confluence of Stream WB-1 and Broadway Street	4.40	4,150	5,960	6,900	8,130
Above U. S. Route 281	4.09	3,990	5,730	6,620	7,820
Below left bank tributary and approximately 3,900 feet upstream of Nature Heights Drive	3.08	4,060	5,580	6,320	7,260

TABLE 2 - SUMMARY OF DISCHARGES - continued

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
WHITMAN BRANCH (continued)					
Above left bank tributary and approximately 3,900 feet upstream of Nature Heights Drive	0.92	1,140	1,580	1,800	2,070
Approximately 4.2 miles upstream of confluence with Backbone Creek	0.64	890	1,210	1,360	1,550
WILLIAMS CREEK					
Above confluence with Backbone Creek	2.22	2,000	2,750	3,100	3,600
Below confluence of Stream WC-1	2.07	1,850	2,550	2,900	3,300
Above confluence of Stream WC-1	1.28	1,100	1,600	1,700	2,000
Approximately 3,900 feet above Farmers Market 1980	0.92	1,000	1,400	1,600	1,850

The hydrologic analysis of SCS Dam No. 1 reflects the stillwater elevations and was included in the hydrologic analysis mentioned above.

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross-section locations are also shown on the Flood Insurance Rate Map (Exhibit 2).

Cross-sectional data for the backwater analyses were obtained using digitized aerial photographs or hydrographic (underwater) surveys and extended from USGS and other topographic maps. Bridge data were obtained by field measurement and by bridge plans provided by the Texas Department of Highways and Public Transportation.

Water-surface elevations of floods of the selected recurrence intervals for the flooding sources studied by detailed methods, with the exception of the Colorado River, were computed using the COE HEC-2 step-backwater computer program (Reference 7). Flood profiles were drawn showing computed water-surface elevations for floods of the selected recurrence intervals. Starting water-surface elevations for the streams studied by detailed methods were calculated using the slope/area method. The starting water-surface elevation for Daugherty Branch above SCS Dam No. 1 uses a known value taken from the modified PULS reservoir routing procedure.

The LCRA prepared the hydraulic analysis for the Highland Lakes system using the LCRA flood routing model, a version of the Dynamic Wave Operation (DWOPER) computer model with spillway gate opening routines. The National Weather Service DWOPER model is a one-dimensional unsteady flow flood routing model to determine the water-surface elevations along a river system. Flood flow hydrographs for different frequencies were developed from probability analyses of instantaneous peak flow and 1- to 40-day volumes, and used as upstream boundary condition.

Channel roughness factors (Manning's "n") used in the hydraulic computations were chosen by engineering judgment and were based on field observations of the stream and floodplain areas. Channel and overbank "n" values for the streams studied by detailed methods are shown in the following tabulation:

Stream	Channel "n"	Overbank "n"
Backbone Creek	0.060-0.080	0.040-0.070
Coldspring Creek	0.070-0.085	0.055-0.070
Colorado River	0.195-0.065	0.195-0.065
Daugherty Branch	0.045-0.050	0.060-0.070
Dry Branch	0.060-0.080	0.060-0.065
Dry Creek	0.060-0.080	0.055-0.065
Hamilton Creek	0.040-0.065	0.055-0.085
Haynie Branch	0.045-0.065	0.065-0.080
Sparerib Creek	0.065-0.075	0.060-0.065
Stream BC-1	0.075-0.080	0.065-0.065
Stream BC-2	0.070-0.075	0.060-0.065
Stream BC-3	0.060-0.080	0.055-0.065
Stream DC-1	0.060-0.060	0.055-0.055
Stream DC-2	0.060-0.075	0.050-0.065
Stream HC(B)-2	0.060-0.065	0.055-0.080
Stream HC(B)-3	0.050-0.060	0.065-0.080

Stream	Channel "n"	Overbank "n"
Stream WB-1	0.075-0.075	0.060-0.065
Stream WC-1	0.070-0.070	0.060-0.060
Whitman Branch	0.065-0.080	0.060-0.060
Williams Creek	0.075-0.075	0.060-0.065

The hydraulic analyses for this study were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

All elevations are referenced to the National Geodetic Vertical Datum of 1929 (NGVD). Elevation reference marks used in this study are shown on the maps; the descriptions of the marks are presented in Elevation Reference Marks (Exhibit 3).

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. Therefore, each Flood Insurance Study provides 100-year flood elevations and delineations of the 100-and 500-year floodplain boundaries and 100-year floodway to assist communities in developing floodplain management measures.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1 percent annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2 percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For the streams studied in detail, the 100-and 500-year floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:24,000 with a contour interval of 10 feet (Reference 8). The shallow flooding along the emergency spillway for SCS Dam No. 1 was delineated using known dimensions of the structure.

For the streams studied by approximate methods, the 100-year floodplain boundaries were delineated using the Flood Hazard Boundary Maps for the unincorporated areas of Burnet County and the City of Marble Falls, and the Flood Insurance Study for the City of Burnet (References 9, 10, and 11).

The 100-and 500-year floodplain boundaries are shown on the Flood Insurance Rate Map (Exhibit 2). On this map, the 100-year floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A, AE, and AO), and the 500-year

floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 100- and 500-year floodplain boundaries are close together, only the 100-year floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

For the streams studied by approximate methods, only the 100-year floodplain boundary is shown on the Flood Insurance Rate Map (Exhibit 2).

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 100-year floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights. Minimum federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as a minimum standard that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this study were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations are tabulated for selected cross sections (Table 3). The computed floodways are shown on the Flood Insurance Rate Map (Exhibit 2). In cases where the floodway and 100-year floodplain boundaries are either close together or collinear, only the floodway boundary is shown. A floodway has been determined for the emergency spillway for SCS Dam No. 1, which has been identified as a shallow flooding area, for administrative purposes.

The area between the floodway and 100-year floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood by more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 2.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Backbone Creek								
A	1,200	250	3,254	9.7	761.0	749.1[2]	749.0	0.1
B	4,900	400	5,208	5.3	761.0	758.4[2]	759.4	1.0
C	7,625	575	5,423	4.3	766.0	766.0	767.0	1.0
D	10,100	450	4,035	6.8	769.9	769.9	770.8	0.9
E	13,305	250	3,413	7.8	781.2	781.2	782.1	0.9
F	16,040	450	2,854	8.7	820.2	820.2	820.4	0.2
G	19,540	700	3,281	7.3	849.3	849.3	849.4	0.1
H	21,475	250	2,665	6.3	868.3	868.3	869.1	0.8
I	27,980	450	2,159	5.7	890.0	890.0	890.8	0.8
J	31,325	300	2,291	5.4	899.3	899.3	899.8	0.5
K	32,690	200	1,664	7.5	904.5	904.5	904.7	0.2
L	35,475	200	2,226	6.0	914.1	914.1	914.7	0.6
M	39,900	275	1,309	5.7	926.2	926.2	926.5	0.3
N	42,875	250	1,493	5.2	938.2	938.2	938.7	0.5
O	45,475	200	1,223	6.1	953.3	953.3	953.7	0.4
P	47,000	349	2,460	3.0	966.4	966.4	967.3	0.9
Q	48,210	150	1,106	6.8	972.0	972.0	972.1	0.1
Belaire Creek								
A	4,310	75	158	5.0	828.9	827.0[2]	827.1	0.1
B	4,900	75	180	4.4	834.2	834.2	834.3	0.1
C	5,310	77	147	5.4	839.1	839.1	839.1	0.0
D	5,420	71	203	3.9	840.7	840.7	840.9	0.2
E	5,800	52	150	5.3	842.9	842.9	843.0	0.1
F	6,020	79	178	4.5	845.0	845.0	845.4	0.4
G	6,520	105	292	2.7	850.8	850.8	851.0	0.2

[1]Feet above confluence with the Colorado River
[2]Elevation computed without consideration of backwater effects from the Colorado River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOODWAY DATA

BACKBONE CREEK - BELAIRE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Coldspring Creek								
A	490[1]	60	472	8.0	787.2	787.2	787.7	0.5
B	1,100[1]	83	503	7.5	794.3	794.3	794.8	0.5
C	2,140[1]	140	532	7.1	824.8	824.8	825.6	0.8
D	2,900[1]	180	709	4.7	834.0	834.0	834.2	0.2
E	3,825[1]	229	839	4.0	839.2	839.2	840.1	0.9
F	5,050[1]	180	730	4.6	846.2	846.2	846.7	0.5
G	6,275[1]	160	711	4.7	852.4	852.4	853.3	0.9
H	7,225[1]	200	839	3.5	857.1	857.1	857.9	0.8
I	8,930[1]	350	857	2.8	866.8	866.8	867.3	0.5
J	9,950[1]	180	609	3.9	873.7	873.7	873.9	0.2
K	11,000[1]	149	515	4.6	877.2	877.2	878.0	0.8
L	12,875[1]	100	464	5.1	886.6	886.6	887.1	0.5
M	13,970[1]	59	335	7.1	893.1	893.1	893.7	0.6
N	16,015[1]	120	607	3.9	907.3	907.3	908.3	1.0
O	17,300[1]	140	763	3.1	911.7	911.7	912.6	0.9
P	18,400[1]	100	539	4.3	918.9	918.9	919.6	0.7
Daugherty Branch								
A	840[2]	58	222	8.0	1,283.9	1,283.9	1,283.9	0.0
B	1,480[2]	80	352	5.0	1,289.4	1,289.4	1,289.6	0.2
C	2,020[2]	150	541	3.3	1,291.5	1,291.5	1,292.5	1.0
D	2,300[2]	140	529	3.3	1,293.5	1,293.5	1,294.0	0.5
E	2,710[2]	150	489	3.6	1,295.5	1,295.5	1,295.7	0.2
F	2,950[2]	100	320	4.0	1,296.5	1,296.5	1,296.7	0.2
G	3,720[2]	100	320	4.0	1,301.3	1,301.3	1,301.4	0.1
H	4,070[2]	100	4	3.1	1,302.1	1,302.1	1,302.6	0.5

[1]Feet above confluence with Backbone Creek
[2]Feet above confluence with Hamilton Creek

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOODWAY DATA

COLDSPRING CREEK - DAUGHERTY BRANCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Daugherty Branch (continued)								
I	4,470[1]	101	175	4.3	1,303.2	1,303.2	1,303.5	0.3
J	9,680[1]	100	309	5.8	1,344.9	1,344.9	1,344.9	0.0
K	10,600[1]	99	315	5.7	1,352.3	1,352.3	1,352.6	0.3
L	11,500[1]	102	308	5.8	1,360.2	1,360.2	1,360.2	0.0
Dry Branch								
A	3,000[2]	300	2,000	4.0	876.8	876.8	877.7	0.9
B	6,050[2]	150	804	5.4	890.6	890.6	890.9	0.3
C	9,450[2]	100	797	4.9	901.1	901.1	901.7	0.6
D	11,300[2]	150	816	4.8	906.7	906.7	906.9	0.2
E	15,560[2]	450	1,833	3.4	921.5	921.5	922.2	0.7
F	17,390[2]	200	1,260	5.0	927.6	927.6	928.2	0.6
G	21,080[2]	250	1,595	3.9	940.5	940.5	941.0	0.5
H	24,280[2]	200	1,357	4.1	950.6	950.6	951.3	0.7
I	26,380[2]	249	1,539	3.7	958.8	958.8	959.8	1.0
Dry Creek								
A	3,490[3]	600	1,655	2.3	890.1	890.1	890.3	0.2
B	5,125[3]	461	1,480	2.6	893.9	893.9	894.0	0.1
C	6,650[3]	440	1,124	3.5	898.4	898.4	898.7	0.3
D	7,955[3]	300	701	2.9	903.4	903.4	903.7	0.3
E	9,500[3]	200	653	3.1	909.0	909.0	909.7	0.7
F	10,745[3]	150	548	3.1	912.9	912.9	913.6	0.7
G	12,470[3]	170	482	3.5	919.9	919.9	920.7	0.8
H	13,740[3]	140	482	3.5	925.3	925.3	926.1	0.8

[1]Feet above confluence with Hamilton Creek
[2]Feet above confluence with Backbone Creek
[3]Feet above confluence with Dry Creek

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOODWAY DATA

DAUGHERTY BRANCH - DRY BRANCH - DRY CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	[1] DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Elm Creek								
A	5,870	120	871	7.4	832.8	832.8	833.1	0.3
B	6,190	150	1,117	5.8	835.0	835.0	835.3	0.3
C	6,520	120	1,122	5.7	836.1	836.1	836.7	0.6
D	6,830	120	1,087	5.9	837.2	837.2	837.8	0.6
E	7,100	140	1,038	6.0	838.5	838.5	839.0	0.5
F	7,370	145	1,044	5.9	840.0	840.0	840.4	0.4
G	9,780	130	622	6.8	853.9	853.9	854.7	0.8
H	10,080	140	896	4.7	856.2	856.2	857.1	0.9
I	10,340	150	727	5.8	857.8	857.8	858.3	0.9
J	10,870	140	948	4.5	860.4	860.4	861.2	0.5
K	11,240	150	863	4.9	861.7	861.7	862.5	0.8
L	11,550	150	931	4.6	863.1	863.1	864.0	0.9
M	11,930	172	1,090	3.1	864.2	864.2	865.2	1.0
N	12,170	130	830	4.1	864.8	864.8	865.6	0.8
O	12,790	130	658	5.2	867.2	867.2	868.1	0.9
P	13,870	190	612	5.6	870.6	870.6	871.2	0.6
Q	13,980	310	1,068	3.2	871.4	871.4	872.3	0.9
R	14,270	320	1,110	3.1	872.5	872.5	873.0	0.5
S	14,400	300	1,010	3.4	873.1	873.1	873.5	0.4
T	14,520	300	739	4.6	873.8	873.8	874.1	0.3
U	14,740	300	1,258	2.7	876.7	876.7	876.9	0.2
V	14,930	136	622	3.4	876.8	876.8	877.2	0.4
W	15,100	136	579	3.6	877.0	877.0	877.6	0.6
X	15,560	120	396	5.3	878.8	878.8	879.0	0.2
Y	15,850	120	468	4.5	880.0	880.0	880.5	0.5
Z	16,250	120	394	5.3	881.3	881.3	882.2	0.9

[1] Feet above confluence with the Colorado River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOODWAY DATA

ELM CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Elm Creek (continued)								
AA	16,620	120	403	5.2	883.1	883.1	884.1	1.0
AB	17,140	120	450	4.7	885.5	885.5	886.3	0.8
AC	17,710	130	540	3.9	887.7	887.7	888.7	1.0
AD	18,070	120	404	5.2	889.5	889.5	890.2	0.7
AE	18,130	129	691	3.0	889.8	889.8	890.8	1.0
AF	18,510	120	559	3.8	890.8	890.8	891.5	0.7
AG	18,700	120	611	3.4	891.4	891.4	892.1	0.7
AH	18,970	95	436	4.8	892.0	892.0	892.8	0.8
AI	19,040	95	376	5.6	892.2	892.2	893.0	0.8
AJ	19,160	95	443	4.7	893.1	893.1	893.7	0.6
Hamilton Creek								
A	66,500	264	2,139	9.9	1,171.8	1,171.8	1,171.8	0.0
B	68,670	400	3,165	6.7	1,189.8	1,189.8	1,190.6	0.8
C	70,940	380	2,303	6.3	1,207.6	1,207.6	1,208.4	0.8
D	72,680	500	2,405	6.0	1,216.2	1,216.2	1,216.6	0.4
E	74,450	500	2,643	5.4	1,223.7	1,223.7	1,224.3	0.6
F	76,180	630	2,782	5.2	1,228.7	1,228.7	1,229.7	1.0
G	77,640	500	2,529	5.7	1,234.6	1,234.6	1,235.3	0.7
H	79,480	510	3,205	4.5	1,240.2	1,240.2	1,241.2	1.0
I	80,530	430	3,598	4.0	1,241.5	1,241.5	1,242.5	1.0
J	81,025	300	2,237	6.4	1,242.5	1,242.5	1,243.4	0.9
K	81,530	380	3,050	4.7	1,245.2	1,245.2	1,246.1	0.9
L	83,230	600	2,990	4.8	1,249.8	1,249.8	1,250.7	0.9
M	84,620	440	3,719	3.9	1,255.6	1,255.6	1,256.5	0.9

[1]Feet above confluence with the Colorado River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOODWAY DATA

ELM CREEK - HAMILTON CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	[1] DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Hamilton Creek (continued)								
N	85,600	250	2,144	6.0	1,259.6	1,259.6	1,260.1	0.5
O	86,260	260	2,461	5.3	1,265.2	1,265.2	1,265.5	0.3
P	86,880	260	2,304	5.6	1,266.0	1,266.0	1,266.6	0.6
Q	88,070	220	1,611	8.1	1,271.8	1,271.8	1,272.3	0.5
R	88,900	330	1,929	6.6	1,279.9	1,279.9	1,280.1	0.2
S	89,570	880	4,042	3.2	1,282.5	1,282.5	1,282.9	0.4
T	90,760	260	1,546	7.2	1,285.9	1,285.9	1,286.3	0.4
U	91,820	240	1,672	6.4	1,289.9	1,289.9	1,290.6	0.7
V	93,580	350	1,361	7.8	1,297.2	1,297.2	1,297.6	0.4
W	94,160	400	2,362	4.5	1,300.0	1,300.0	1,300.9	0.9
X	95,380	270	1,741	6.1	1,307.5	1,307.5	1,308.3	0.8
Y	96,670	260	1,896	5.6	1,315.3	1,315.3	1,315.6	0.3
Z	97,730	260	1,911	4.7	1,318.6	1,318.6	1,319.4	0.8
AA	98,300	350	1,918	4.7	1,321.1	1,321.1	1,321.7	0.6
AB	98,760	300	1,086	6.5	1,324.0	1,324.0	1,324.1	0.1
AC	99,350	270	1,297	5.4	1,328.0	1,328.0	1,328.4	0.4
AD	99,940	270	1,332	5.3	1,330.6	1,330.6	1,331.2	0.6
AE	101,040	270	1,388	5.1	1,337.0	1,337.0	1,337.9	0.9
AF	102,290	230	923	6.4	1,345.8	1,345.8	1,346.0	0.2
AG	103,650	114	389	1.7	1,350.7	1,350.7	1,351.5	0.8
AH	104,770	63	146	4.6	1,359.9	1,359.9	1,359.9	0.0
AI	106,160	100	188	3.6	1,372.8	1,372.8	1,372.8	0.0
AJ	107,850	98	205	3.3	1,386.1	1,386.1	1,386.1	0.0
AK	109,340	91	147	2.7	1,394.8	1,394.8	1,394.8	0.0

[1] Feet above confluence with the Colorado River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOODWAY DATA

HAMILTON CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Haynie Branch								
A	1,400[1]	100	429	5.6	1,259.2	1,259.2	1,259.7	0.5
B	2,630[1]	110	492	4.9	1,269.0	1,269.0	1,269.8	0.8
C	3,430[1]	120	530	4.5	1,276.9	1,276.9	1,277.7	0.8
D	3,980[1]	180	538	4.4	1,281.6	1,281.6	1,282.6	1.0
E	4,530[1]	170	468	5.1	1,288.1	1,288.1	1,288.5	0.4
F	5,060[1]	150	410	3.8	1,294.0	1,294.0	1,294.8	0.8
G	5,390[1]	110	380	4.1	1,296.0	1,296.0	1,296.8	0.8
H	5,890[1]	120	273	5.7	1,300.1	1,300.1	1,300.3	0.2
I	6,360[1]	100	463	3.4	1,306.5	1,306.5	1,307.4	0.9
J	7,180[1]	100	275	5.7	1,319.8	1,319.8	1,320.3	0.5
K	7,990[1]	109	250	6.3	1,331.8	1,331.8	1,332.2	0.4
L	8,920[1]	68	130	6.5	1,350.8	1,350.8	1,350.9	0.1
M	9,420[1]	68	125	6.8	1,363.0	1,363.0	1,363.4	0.4
N	10,170[1]	60	141	6.0	1,385.2	1,385.2	1,395.1	0.1
Spareribb Creek								
A	1,770[2]	275	1,244	4.3	888.9	888.9	889.7	0.8
B	3,660[2]	250	1,267	4.5	896.5	896.5	896.8	0.3
C	5,305[2]	350	1,285	4.5	900.8	900.8	901.8	1.0
D	6,750[2]	350	1,438	4.0	907.2	907.2	908.0	0.8
E	8,355[2]	175	877	4.9	911.6	911.6	912.3	0.7
F	10,355[2]	301	1,236	3.5	917.8	917.8	918.8	1.0
G	13,260[2]	250	818	4.7	925.5	925.5	926.0	0.5
H	15,240[2]	300	1,115	3.5	934.5	934.5	935.5	1.0
I	18,250[2]	599	2,843	1.4	948.5	948.5	949.5	1.0
J	20,040[2]	600	1,065	3.6	959.0	959.0	959.6	0.6

[1]Feet above confluence with Hamilton Creek
[2]Feet above confluence with Backbone Creek

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOODWAY DATA

HAYNIE BRANCH - SPARERIB CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Stream BC-1								
A	510[1]	200	606	4.7	761.0	753.7[3]	754.7	1.0
B	1,625[1]	90	399	3.0	761.0	760.7[3]	761.2	0.5
C	2,555[1]	96	332	3.6	764.9	764.9	765.2	0.3
Stream BC-2								
A	3,925[1]	92	567	4.3	787.4	787.4	788.4	1.0
B	5,100[1]	100	634	3.9	793.3	793.3	794.3	1.0
C	7,620[1]	100	513	4.8	809.6	809.6	809.9	0.3
D	9,030[1]	81	345	6.1	819.9	819.9	820.0	0.1
E	10,320[1]	74	292	7.2	835.5	835.5	835.5	0.0
F	11,725[1]	62	265	7.9	858.0	858.0	858.0	0.0
G	13,000[1]	63	240	8.7	876.7	876.7	876.8	0.1
H	14,120[1]	89	379	5.5	890.9	890.9	891.2	0.3
Stream BC-3								
A	2,110[1]	250	1,980	3.2	921.8	921.8	922.8	1.0
B	4,425[1]	150	928	6.2	929.2	929.2	929.7	0.5
C	5,520[1]	175	1,130	5.1	934.3	934.3	935.1	0.8
D	8,475[1]	249	975	2.9	943.3	943.3	943.9	0.6
E	10,650[1]	400	900	3.1	953.0	953.0	953.7	0.7
F	12,380[1]	81	363	6.2	962.6	962.6	963.0	0.4
G	13,680[1]	150	638	3.5	974.9	974.9	975.2	0.3
H	14,525[1]	146	445	5.1	979.2	979.2	979.2	0.0
Stream DC-1								
A	2,850[2]	70	205	3.5	901.7	901.7	902.7	1.0
B	3,765[2]	70	167	4.4	905.1	905.1	905.6	0.5

[1]Feet above confluence with Backbone Creek
[2]Feet above confluence with Dry Creek
[3]Elevation computed without consideration of backwater effects from the Colorado River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOODWAY DATA

STREAM BC-1 - STREAM BC-2 - STREAM BC-3 - STREAM DC-1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Stream DC-2								
A	1,100[1]	110	371	4.2	903.6	903.6	904.1	0.5
B	2,365[1]	110	440	3.6	908.7	908.7	909.5	0.8
C	3,700[1]	100	453	3.5	913.6	913.6	914.5	0.9
D	5,310[1]	80	395	4.0	919.4	919.4	920.3	0.9
E	6,775[1]	107	353	3.4	926.2	926.2	926.9	0.7
F	7,850[1]	70	324	3.7	931.0	931.0	931.5	0.5
G	9,080[1]	80	263	4.6	936.3	936.3	936.6	0.3
H	10,470[1]	97	502	2.4	943.1	943.1	943.4	0.3
I	11,355[1]	100	408	3.0	946.3	946.3	946.8	0.3
Stream EC-1								
A	2,050[2]	120	199	6.5	836.2	836.2	836.2	0.0
B	2,290[2]	130	369	2.2	838.3	838.3	839.3	1.0
C	2,730[2]	80	292	2.7	841.4	841.4	842.4	1.0
D	2,870[2]	81	276	2.9	841.9	841.9	842.8	0.9
E	3,280[2]	40	144	5.6	843.8	843.8	844.3	0.5
F	3,400[2]	60	197	4.1	844.9	844.9	845.8	0.9
G	3,660[2]	94	314	2.5	846.1	846.1	846.9	0.8
H	3,770[2]	80	256	3.1	847.8	847.8	848.4	0.6
I	3,930[2]	59	178	4.5	848.7	848.7	849.0	0.3
J	4,020[2]	80	236	3.4	849.3	849.3	849.6	0.3
K	4,170[2]	74	190	4.2	850.0	850.0	850.3	0.3
L	4,650[2]	80	225	3.6	856.6	856.6	857.3	0.7
M	4,800[2]	70	201	4.0	857.7	857.7	858.5	0.8

[1]Feet above confluence with Dry Creek
[2]Feet above confluence with Elm Creek

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOODWAY DATA

STREAM DC-2 -STREAM EC-1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Stream EC-1 (continued)								
N	4,890[1]	110	276	2.9	858.3	858.3	859.2	0.9
O	5,060[1]	68	165	4.9	859.6	859.6	860.1	0.5
P	5,150[1]	82	235	3.4	860.7	860.7	861.5	0.8
Stream EC-2								
A	1,330[1]	67	131	4.2	847.1	847.0[3]	847.5	0.5
B	1,550[1]	70	180	3.1	848.9	848.9	849.2	0.3
C	1,650[1]	95	264	2.1	849.4	849.4	849.6	0.2
D	1,780[1]	80	126	4.3	850.0	850.0	850.1	0.1
E	1,920[1]	73	138	4.0	851.1	851.1	851.2	0.1
F	2,060[1]	73	142	3.9	852.2	852.2	852.3	0.1
G	2,500[1]	60	178	2.8	854.2	854.2	855.1	0.9
H	2,690[1]	60	158	3.2	854.9	854.9	855.6	0.7
I	2,870[1]	90	195	2.6	855.7	855.7	856.2	0.5
J	3,090[1]	107	143	3.5	856.7	856.7	856.8	0.1
Stream EC-3								
A	710[2]	84	194	3.1	845.6	845.4[3]	845.8	0.4
B	1,360[2]	50	137	4.4	850.1	850.1	850.3	0.2
Stream EC-4								
A	1,600[1]	90	329	4.3	850.6	850.1	850.9	0.8
B	2,210[1]	61	241	5.8	854.1	854.1	854.3	0.2
C	2,800[1]	66	293	4.8	858.0	858.0	858.9	0.9
D	3,320[1]	70	317	4.4	860.7	860.7	861.7	1.0

[1]Feet above confluence with Elm Creek
[2]Feet above confluence with Stream EC-4
[3]Elevation computed without consideration of backwater effects from Elm Creek

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOODWAY DATA

STREAM EC-1 - STREAM EC-2 - STREAM EC-3 - STREAM EC-4

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	[1] DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Stream EC-4 (continued)								
E	4,630	70	309	1.8	866.9	866.9	867.9	1.0
F	5,030	59	174	3.2	868.1	868.1	868.7	0.6
G	5,380	59	145	3.8	870.1	870.1	870.2	0.1
Stream EC-5								
A	610	110	399	2.6	851.0	851.0	851.6	0.6
B	920	109	275	3.8	852.8	852.8	852.8	0.0
C	1,040	110	410	2.6	853.7	853.7	853.8	0.1
D	1,210	100	292	3.6	854.2	854.2	854.4	0.2
E	1,420	100	282	3.7	855.3	855.3	855.8	0.5
F	1,550	99	314	3.3	856.3	856.3	856.5	0.2
G	1,700	140	395	2.7	856.9	856.9	857.0	0.1
H	2,380	60	256	4.1	860.4	860.4	860.4	0.0
I	2,590	101	307	4.1	861.1	861.1	861.4	0.3
J	2,890	101	314	3.3	862.0	862.0	862.5	0.5
K	3,180	107	352	3.0	863.0	863.0	863.2	0.2
L	3,730	84	260	4.0	865.0	865.0	865.4	0.4
M	4,100	97	334	2.7	866.0	866.0	866.6	0.6
N	4,360	71	198	4.5	866.8	866.8	867.2	0.4
Stream EC-6								
A	1,010	80	276	4.3	865.2	865.2	865.8	0.6
B	1,530	110	473	2.5	867.3	867.3	868.1	0.8
C	1,750	91	416	2.9	867.6	867.6	868.6	1.0
D	1,830	80	273	4.4	867.9	867.9	868.7	0.8

[1] Feet above confluence with Elm Creek

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOODWAY DATA

STREAM EC-4 - STREAM EC-5 - STREAM EC-6

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
						(FEET NGVD)		
Stream EC-6 (continued)								
E	2,650[1]	80	321	3.7	873.0	873.0	874.0	1.0
F	3,530[1]	80	312	3.8	877.4	877.4	878.4	1.0
G	4,210[1]	100	308	3.9	880.5	880.5	881.4	0.9
H	4,280[1]	100	325	3.7	880.8	880.8	881.8	1.0
I	4,890[1]	84	381	2.9	884.6	884.6	885.2	0.6
J	5,420[1]	90	292	3.8	886.1	886.1	887.1	1.0
K	5,590[1]	80	265	4.2	886.4	886.4	887.4	1.0
L	5,890[1]	70	218	5.1	888.6	888.6	889.5	0.9
M	6,220[1]	90	351	3.1	891.0	891.0	891.9	0.9
N	6,390[1]	80	260	4.2	891.6	891.6	892.3	0.7
Stream EC-7								
A	1,740[1]	123	754	1.9	876.8	876.5[3]	877.3	0.8
B	2,170[1]	100	418	3.5	876.9	876.7[3]	877.6	0.9
C	3,020[1]	100	395	3.7	879.3	879.3	880.3	1.0
D	3,500[1]	110	318	3.9	881.4	881.4	882.0	0.6
E	3,970[1]	100	391	3.2	882.9	882.9	883.9	1.0
Stream HC(B)-1								
A	1,400[2]	130	489	5.5	1,203.2	1,203.0[4]	1,203.2	0.2
B	2,460[2]	221	557	4.9	1,211.3	1,211.3	1,211.5	0.2
C	3,220[2]	200	509	5.3	1,214.4	1,214.4	1,214.4	0.0
D	4,180[2]	179	682	4.0	1,219.1	1,219.1	1,219.8	0.7
E	4,580[2]	252	610	4.4	1,221.8	1,221.8	1,222.2	0.4
F	5,240[2]	200	803	3.4	1,225.6	1,225.6	1,226.1	0.5

[1]Feet above confluence with Elm Creek
[2]Feet above confluence with Hamilton Creek
[3]Elevation computed without consideration of backwater effects from Elm Creek
[4]Elevation computed without consideration of backwater effects from Hamilton Creek

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOODWAY DATA

STREAM EC-6 - STREAM EC-7 -STREAM HC(B)-1

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Stream HC(B)-1 (continued)								
G	5,970	180	674	4.0	1,228.7	1,228.7	1,228.9	0.2
H	6,230	200	1,175	2.3	1,232.1	1,232.1	1,232.4	0.3
I	7,270	130	559	4.8	1,234.9	1,234.9	1,235.5	0.6
J	8,090	201	665	4.1	1,239.7	1,239.7	1,240.1	0.4
K	8,830	236	743	3.1	1,244.0	1,244.0	1,244.3	0.3
L	9,800	206	862	2.6	1,250.3	1,250.3	1,250.7	0.4
Stream HC(B)-2								
A	1,380	220	436	3.3	1,285.5	1,285.2[2]	1,286.2	1.0
B	2,160	150	353	4.1	1,293.4	1,293.4	1,293.8	0.4
C	2,770	101	210	6.8	1,299.4	1,299.4	1,299.4	0.0
D	3,830	135	255	3.6	1,306.0	1,306.0	1,306.4	0.4
E	4,260	120	218	4.2	1,311.5	1,311.5	1,312.4	0.9
F	4,770	101	205	4.4	1,320.8	1,320.8	1,321.2	0.4
Stream HC(B)-3								
A	650	180	441	4.9	1,318.1	1,318.1	1,318.4	0.3
B	1,750	120	343	6.3	1,326.4	1,326.4	1,326.6	0.2
C	2,790	152	334	4.4	1,336.4	1,336.4	1,336.8	0.4
D	3,480	145	334	4.4	1,343.7	1,343.7	1,343.9	0.2
E	4,330	190	309	4.7	1,351.4	1,351.4	1,351.4	0.0
F	4,760	150	655	2.2	1,356.3	1,356.3	1,357.2	0.9
G	4,950	101	308	4.7	1,357.0	1,357.0	1,357.6	0.6

[1]Feet above confluence with Hamilton Creek
[2]Elevation computed without consideration of backwater effects from Hamilton Creek

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOODWAY DATA

STREAM HC(B)-1 - STREAM HC(B)-2 - STREAM HC(B)-3

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY	INCREASE
Stream HC(B)-4								
A	860[1]	90	369	5.7	1,355.6	1,355.6	1,355.7	0.1
B	1,530[1]	79	264	8.0	1,363.7	1,363.7	1,364.0	0.3
C	2,340[1]	70	305	6.9	1,370.2	1,370.2	1,370.9	0.7
D	2,900[1]	60	269	3.3	1,376.2	1,376.2	1,376.8	0.6
E	3,540[1]	51	159	5.7	1,382.2	1,382.2	1,382.2	0.0
F	4,510[1]	60	68	1.8	1,394.1	1,394.1	1,394.1	0.0
Stream WB-1								
A	415[2]	100	747	4.3	774.0	774.0	774.8	0.8
B	1,300[2]	120	680	4.7	792.3	792.3	793.1	0.8
C	2,250[2]	90	401	8.0	808.7	808.7	808.7	0.0
D	3,030[2]	90	502	6.4	819.0	819.0	819.4	0.4
E	3,700[2]	88	236	9.4	828.1	828.1	828.1	0.0
F	4,525[2]	99	310	7.1	845.5	845.5	845.5	0.0
Stream WC-1								
A	940[3]	115	226	3.5	856.2	856.2	856.2	0.0
B	1,890[3]	84	270	3.0	861.2	861.2	861.7	0.5
C	2,900[3]	50	172	4.5	867.4	867.4	868.2	0.8
D	4,075[3]	48	174	4.5	873.6	873.6	874.1	0.5
E	5,100[3]	53	179	4.5	879.4	879.4	879.7	0.3
Whitman Branch								
A	1,000[4]	273	1,964	4.1	761.0	756.9[5]	757.6	0.7
B	2,500[4]	250	1,636	5.7	761.3	761.3	762.0	0.7
C	4,615[4]	200	1,590	4.3	773.2	773.2	773.7	0.5

[1]Feet above confluence with Hamilton Creek
[2]Feet above confluence with Whitman Branch
[3]Feet above confluence with Williams Creek
[4]Feet above confluence with Backbone Creek
[5]Elevation computed without consideration of backwater effects from the Colorado River

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOODWAY DATA

STREAM HC(B)-4 - STREAM WB-1 -STREAM WC-1 -WHITMAN BRANCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Whitman Branch (continued)								
D	6,020	139	721	9.6	794.8	794.8	794.8	0.0
E	8,440	200	1,151	5.8	813.3	813.3	814.3	1.0
F	10,000	175	1,454	4.6	824.0	824.0	824.7	0.7
G	11,600	200	1,401	4.5	831.1	831.1	831.5	0.4
H	13,825	200	1,455	4.6	838.4	838.4	839.3	0.9
I	16,500	300	1,488	4.2	851.0	851.0	851.8	0.8
J	19,600	150	416	4.3	875.1	875.1	875.8	0.7
K	21,775	86	160	8.1	906.5	906.5	906.5	0.0
Williams Creek								
A	2,740	70	308	9.4	843.1	843.1	843.3	0.2
B	4,025	400	1,110	2.6	855.3	855.3	855.3	0.0
C	5,170	56	279	6.1	861.0	861.0	861.3	0.3
D	6,375	114	707	2.4	868.5	868.5	868.9	0.4
E	8,175	100	442	3.6	871.9	871.9	872.6	0.7
F	9,340	80	392	4.1	876.4	876.4	877.2	0.8

[1]Feet above confluence with Backbone Creek

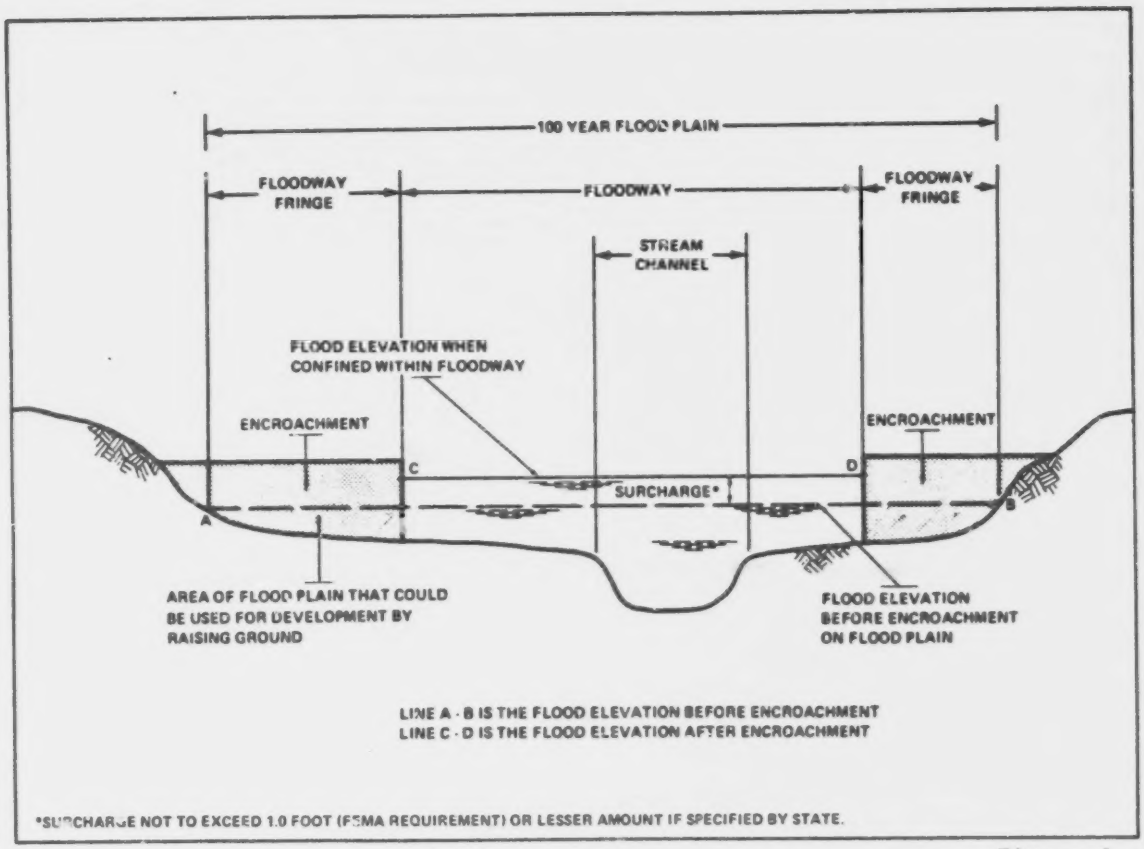
TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOODWAY DATA

WHITMAN BRANCH - WILLIAMS CREEK



FLOODWAY SCHEMATIC

Figure 2

Near the mouths of streams studied in detail, floodway computations are made without regard to flood elevations on the receiving water body. Therefore, "Without Floodway" elevations presented in Table 3 for certain downstream cross sections of Backbone Creek, Belaire Creek, Stream BC-1, Stream EC-2, Stream EC-3, Stream EC-4, Stream EC-7, Stream HC(B)-1, Stream HC(B)-2, and Whitman Branch are lower than the regulatory flood elevations in that area, which must take into account the 100-year flooding due to backwater from other sources.

5.0 INSURANCE APPLICATIONS

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by detailed methods. In most instances, whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone AH

Zone AH is the flood insurance rate zone that corresponds to the areas of 100-year shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone AO

Zone AO is the flood insurance rate zone that corresponds to the areas of 100-year shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the detailed hydraulic analyses are shown within this zone.

Zone A99

Zone A99 is the flood insurance rate zone that corresponds to areas of the 100-year floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or depths are shown within this zone.

Zone V

Zone V is the flood insurance rate zone that corresponds to the 100-year coastal floodplains that have additional hazards associated with storm waves. Because approximate hydraulic analyses are performed for such areas, no base flood elevations are shown within this zone.

Zone VE

Zone VE is the flood insurance rate zone that corresponds to the 100-year coastal floodplains that have additional hazards associated with storm waves. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 500-year floodplain, areas within the 500-year floodplain, and to areas of 100-year flooding where average depths are less than 1 foot, areas of 100-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100-year flood by levees. No base flood elevations or depths are shown within this zone.

Zone D

Zone D is the flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

6.0 FLOOD INSURANCE RATE MAP

The Flood Insurance Rate Map is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 100-year floodplains that were studied by detailed methods, shows selected whole-foot base flood elevations or average depths. Insurance agents use the zones and base flood elevations in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols, the 100- and 500-year floodplains. Floodways and the locations of selected cross sections used in the hydraulic analyses and floodway computations are shown where applicable.

The current Flood Insurance Rate Map represents flooding information for the entire geographic area of Burnet County. Previously, separate Flood Hazard Boundary Maps and/or Flood Insurance Rate Maps were prepared for each identified flood-prone incorporated community and the unincorporated areas of the county. Historical data relating to the maps prepared for each community are presented in Table 4, "Community Map History."

7.0 OTHER STUDIES

Flood Insurance Studies have been prepared for the unincorporated areas of Bell and Travis Counties (References 12 and 13). The results of this study are not in exact agreement with the results of those studies due to the more detailed analysis used in this study.

Due to its more detailed analysis, this study supersedes the Flood Hazard Boundary Map for the unincorporated areas of Burnet County, the Flood Hazard Boundary Map for the City of Marble Falls, and the Flood Insurance Study for the City of Burnet (References 9, 10, and 11). The SCS published the following study on the City of Burnet, Texas: Final Watershed Plan and Environmental Impact Statement USDA-SCS-EIS-WS-(ADM)-78-5-(F)-(TX) Hamilton Creek Watershed, Burnet County, Texas (Reference 14).

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
BURNET, CITY OF	May 17, 1974	January 30, 1976	September 18, 1987	November 16, 1990
COTTONWOOD SHORES, CITY OF	November 16, 1990		November 16, 1990	
GRANITE SHOALS, CITY OF	July 18, 1975	None	November 16, 1990	
MARBLE FALLS, CITY OF	May 31, 1974	May 28, 1976 November 8, 1977	November 16, 1990	
MEADOWLAKES, CITY OF	November 16, 1990		November 16, 1990	
UNINCORPORATED AREAS	November 22, 1977	None	November 16, 1990	

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

8.0 LOCATION OF DATA

Information concerning the pertinent data used in preparation of this study can be obtained by contacting FEMA, the Natural and Technological Hazards Division, Federal Regional Center, 800 North Loop 288, Denton, Texas 76201.

9.0 BIBLIOGRAPHY AND REFERENCES

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2. Texas State Historical Association, The Handbook of Texas, Volumes 2 and 3, 1952.

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4. U. S. Army Corps of Engineers, Fort Worth District, Computer Program NUDALLAS, Fort Worth, Texas, revised September 1982.

5. U. S. Department of Commerce, Weather Bureau, Technical Paper No. 40, Rainfall Frequency Atlas of the United States, Washington, D. C., May 1961.

6. U. S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, Technical Memorandum NWS Hydro-35, Five-to 60-Minute Precipitation Frequency for the Eastern and Central United States, Asheville, North Carolina, National Climatic Center, June 1977.

7. U. S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water Surface Profiles, Computer Program 723-X6-L2024, Davis, California, January 1981, with updates.

8. U. S. Department of the Interior, Geological Survey, 7.5-Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 10 Feet: Pace Bend, Texas, 1967; Spicewood, Texas, 1967; Travis Peak, Texas, 1966; Smithwick, Texas, 1967; Marble Falls, Texas, 1967; Dunman Mountain, Texas, 1967, Photorevised 1982; Longhorn Cavern, Texas, 1967; Kingsland, Texas, 1967, Photorevised 1982; Lake Buchanan, Texas, 1967, Photorevised 1979; Council Creek, Texas, 1967; Tow, Texas, 1967, Photorevised 1976; and Gorman Falls, Texas, 1959.

9. U. S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Unincorporated Areas of Burnet County, Texas, November 22, 1977.

10. U. S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, City of Marble Falls, Burnet County, Texas, November 8, 1977.

11. Federal Emergency Management Agency, Flood Insurance Study, City of Burnet, Burnet County, Texas, Washington, D. C., September 18, 1987.

12. Federal Emergency Management Agency, Flood Insurance Study, Unincorporated Areas of Bell County, Texas, Washington, D. C., February 15, 1984.

13. Federal Emergency Management Agency, Flood Insurance Study, Unincorporated Areas of Travis County, Texas, Washington, D. C., January 2, 1987.

14. U. S. Department of Agriculture, Soil Conservation Service, Final Watershed Plan and Environmental Impact Statement USDA-SCS-EIS-WS-(ADM)-78-5-(F)-(TX) Hamilton Creek Watershed, Burnet County, Texas, Washington, D. C., February 1979.

D. L. Fread, National Weather Service Operational Dynamic Wave Model (DWOPER), April 1978.

U. S. Army Corps of Engineers, Southwestern Division, SUPER Computer Program by R. Hula, 1973.

U. S. Army Corps of Engineers, Fort Worth District, 1978 Water Control Manual, Fort Worth, Texas, 1978.

EXHIBIT 3 - ELEVATION REFERENCE MARKS

Reference Mark	FIRM Panel	Elevation (Feet NGVD)	Description of Location
RM 1	110	1,024.10	Iron pin with cap in back yard of residence, approximately 4.0 miles north on FM 2241 from intersection of FM 3014 and FM 2241, past Falls Creek Winery, straight ahead after T in road.
RM 2	110	1,030.74	Iron pin with cap on right, next to entrance to Goodrich Ranch, approximately 11.1 miles north on FM 2341 from intersection of FM 690 and FM 2341.
RM 3	110	1,054.32	Iron pin with cap on left side of FM 2341, approximately 8.6 miles north on FM 2341 from intersection of FM 690 and FM 2341.
RM 4	110	1,020.57	Iron pin with cap to right of two trees, on FM 3014, approximately 2.3 miles from intersection of FM 224 and FM 3014.
RM 5	110	1,035.66	Iron pin with cap to right of cattle guard, approximately 1.7 miles along FM 3014 from intersection of FM 3014 and FM 2241, at wide intersection.
RM 6	110	1,063.78	Iron pin with cap on left side of road on FM 2341, approximately 7.25 miles from intersection of FM 690 and FM 2341.
RM 7	110	1,035.17	Iron pin with cap on right side of road approximately 200 feet southwest of storage area, along FM 2341, approximately 6.7 miles north of FM 690.
RM 8	120	1,050.85	Iron pin with cap on right side of road by headwall, on FM 2341, approximately 5.65 miles north of FM 690.
RM 9	120	1,076.87	Iron pin with cap on right side of road, on FM 2341, approximately 3.4 miles north of FM 690.

EXHIBIT 3 - ELEVATION REFERENCE MARKS (continued)

Reference Mark	FIRM Panel	Elevation (Feet NGVD)	Description of Location
RM 10	120	1,091.34	Iron pin with cap on left side of FM 690, approximately 5.8 miles north of State Route 29.
RM 11	120	1,056.10	Iron pin with cap on left side of FM 690, approximately 4.5 miles north of State Route 29.
RM 12	210	1,041.82	Standard tablet stamped PRIM TRAV STA NO 54 K 1924 TEXAS H 156, located in top of large granite ledge flush with ground, approximately 0.3 mile south from OK School, approximately 550 feet north, and approximately 200 feet west from crossroads.
RM 13	210	1,045.49	Iron pin with cap on left side of FM 690, approximately 2.3 miles north of State Route 29.
RM 14	210	918.10	Iron pin with cap on left side of road and east side of the Colorado River, approximately 100 feet east of bridge, on State Route 29, approximately 0.7 mile west of FM 690 and State Route 29.
RM 15	210	976.79	Iron pin with cap at northeast corner of intersection of State Route 29 and FM 690.
RM 16	210	914.28	Iron pin with cap on north side of State Route 29, at intersection of State Route 29 and Park Road 4.
RM 17	210	915.09	Iron pin with cap on south side of Park Road 4, approximately 4.3 miles north of County Route 118.
RM 18	210	916.87	Iron pin with cap on west side of Park Road 4, approximately 2.3 miles north of County Route 118.
RM 19	210	959.02	Iron pin with cap on right side of Park Road 4, approximately 1.3 miles north of intersection of Park Road 4 and County Route 118.

EXHIBIT 3 - ELEVATION REFERENCE MARKS (continued)

Reference Mark	FIRM Panel	Elevation (Feet NGVD)	Description of Location
RM 20	210	896.06	Iron pin with cap at southwest corner of Seneca Road and Mt. View Drive.
RM 21	210	879.84	Iron pin with cap at northwest corner of Park Road 4 and County Route 118.
RM 22	220	935.56	Iron pin located on northeast side of FM 2342, at intersection of Park Road 4 and FM 2342.
RM 23	220	886.71	Iron pin with cap located on west side of FM 2342, approximately 3.4 miles northeast of FM 1431.
RM 24	220	880.79	Iron pin with cap located on east side of FM 2342, approximately 2.6 miles northeast of FM 1431.
RM 25	220	919.71	Iron pin approximately 3.1 miles northeast of Kingsland along FM 2342, approximately 50 feet south of big bend in road.
RM 26	220	896.83	Iron pin with cap located on west side of FM 2342, approximately 2 miles northeast of FM 1431.
RM 27	220	858.07	Iron pin with cap on left side of FM 1431, approximately 1.7 miles east of FM 2900.
RM 28	231	1,340.08	Cap stamped TBM 210 1984 on top of iron rod, located on southwest corner of T-intersection of private farm road and Old San Saba Road, approximately 0.3 mile north of intersection of Old San Saba Road and U. S. Route 281 (Water Street).
RM 29	231	1,265.10	Cap stamped TBM 207 1984 on top of iron rod, located on southeast side of T-intersection of U. S. Route 281 (Water Street) and Pecan Street.

EXHIBIT 3 - ELEVATION REFERENCE MARKS (continued)

Reference Mark	FIRM Panel	Elevation (Feet NGVD)	Description of Location
RM 30	233	1,266.70	Cap stamped TBM 206 1984 on top of iron rod, located on southwest side of T-intersection of U. S. Route 281 and paved entrance to Burnet rodeo grounds (near Burnet airport).
RM 31	233	1,256.06	Cap stamped TBM 205 1984 on top of iron rod, located approximately 10 feet northeast of T-intersection of U. S. Route 281 and paved road, approximately 650 feet east of south end of Burnet airport runway.
RM 32	238	971.48	Iron rod located on south side of Fairland Road, approximately 4.3 miles west from intersection with U. S. Route 281.
RM 33	238	958.32	Iron rod located on northeast corner of intersection of Fairland Road and Southern Pacific Railroad, approximately 3.7 miles west from intersection with U. S. Route 281.
RM 34	239	980.359	USC&GS brass cap set in concrete post approximately 0.4 mile northeast along Southern Pacific Railroad from Fairland, at road crossing opposite culvert, approximately 48 feet south of track, approximately 40 feet west of centerline of road, and in corner of right-of-way fence.
RM 35	239	972.81	Iron rod located on north side of FM 1855, approximately 1.2 miles west from intersection with U. S. Route 281.
RM 36	284	987.57	Iron rod on north side of intersection of FM 1431 and Sherwood Drive.
RM 37	284	882.78	Iron rod located on northeast corner of intersection of Sherwood Drive and Castlewood Drive.
RM 38	284	860.85	Iron rod located at intersection of Sherwood Drive and Live Oak Street.

EXHIBIT 3 - ELEVATION REFERENCE MARKS (continued)

Reference Mark	FIRM Panel	Elevation (Feet NGVD)	Description of Location
RM 39	285	880.50	Iron pin with cap in northeast corner near stop sign of FM 1431, approximately 1.75 miles south of Llano-Burnet County Boundary.
RM 40	285	888.23	Top of west end of north concrete headwall, approximately 3.3 miles southeast along Southern Pacific Railroad from Kingsland, approximately 12 poles east of milepost 77, concrete arch culvert 76 C.
RM 41	285	855.73	Iron pin with cap in north corner of FM 2233 and Circle Drive.
RM 42	301	985.123	USC&GS brass cap set in 3.5-inch iron pipe located on southeast corner of intersection of Burnet-Fredericksburg road and Southern Pacific Railroad, approximately 44 feet south of track, near right-of-way fence corner, and approximately 3.0 miles west along Southern Pacific Railroad from Fairland.
RM 43	302	1,109.55	Iron rod located on east side of U. S. Route 281, approximately 3.7 miles north of intersection with FM 1431.
RM 44	302	889.910	USC&GS brass cap set in 3.5-inch iron pipe, approximately 2.4 miles south along Southern Pacific Railroad from station at Fairland, approximately 66 feet northeast of center of private road crossing, approximately 48 feet east of east rail, and approximately 42 feet north of centerline of private road.
RM 45	303	945.80	Brass cap stamped C3 1924 approximately 30 feet northwest of Dim Track Road, approximately 260 feet northeast of FM 1431, and approximately 3.7 miles northeast of I Avenue.
RM 46	304	869.63	Iron rod located on east side of paved county road approximately 1 mile north of FM 1431, and approximately 0.5 mile west of intersection of FM 1431 and Shifflet Road.

EXHIBIT 3 - ELEVATION REFERENCE MARKS (continued)

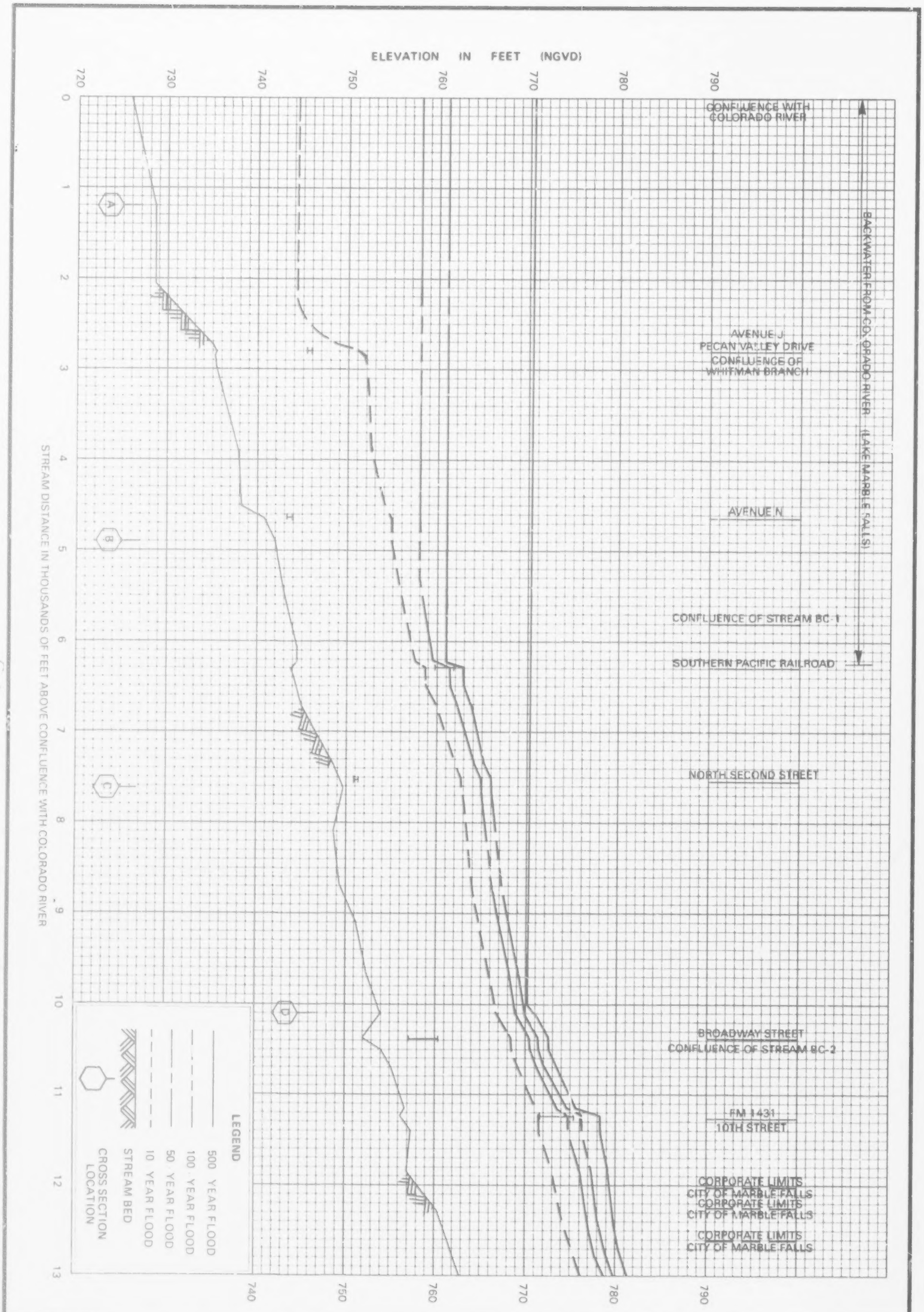
Reference Mark	FIRM Panel	Elevation (Feet NGVD)	Description of Location
RM 47	304	679.57	Iron rod located on U. S. Route 281, approximately 2 miles north of intersection with FM 1431.
RM 48	304	850.15	Iron rod located on FM 1431, approximately 1.7 miles west of intersection of U. S. Route 281, approximately 30 feet east of entrance to Texas Granite Corporation.
RM 49	304	835.02	Iron rod located on U. S. Route 281, approximately 1 mile north of intersection with FM 1431.
RM 50	304	762.18	Iron rod with cap located on county road approximately 1.04 miles south of FM 1431, and approximately 0.5 mile west of intersection of FM 1431 and Shifflet Road.
RM 51	304	809.45	Iron rod with cap located on FM 1431 approximately 0.4 mile west of intersection of U. S. Route 281 on right side of road in front of Lakeland Mall.
RM 52	304	819.52	Iron rod located on southeast corner of intersection of U. S. Route 281 and FM 1431.
RM 53	312	908.57	Iron rod located on north side of FM 1431, approximately 0.6 mile east of intersection with U. S. Route 281.
RM 54	312	780.182	USC&GS brass disk located at Marble Falls, at east corner of northeast concrete footing for water tower, approximately 200 feet west of U. S. Route 281 and approximately 350 feet north of left bank of the Colorado River (water tower has been removed from footings).
RM 55	312	839.69	Iron rod located in northwest corner of intersection of FM 2147 and U. S. Route 281.
RM 56	320	787.76	Iron pin with cap located on south side of FM 1431, approximately 2.3 miles east of U. S. Route 281.

EXHIBIT 3 - ELEVATION REFERENCE MARKS (continued)

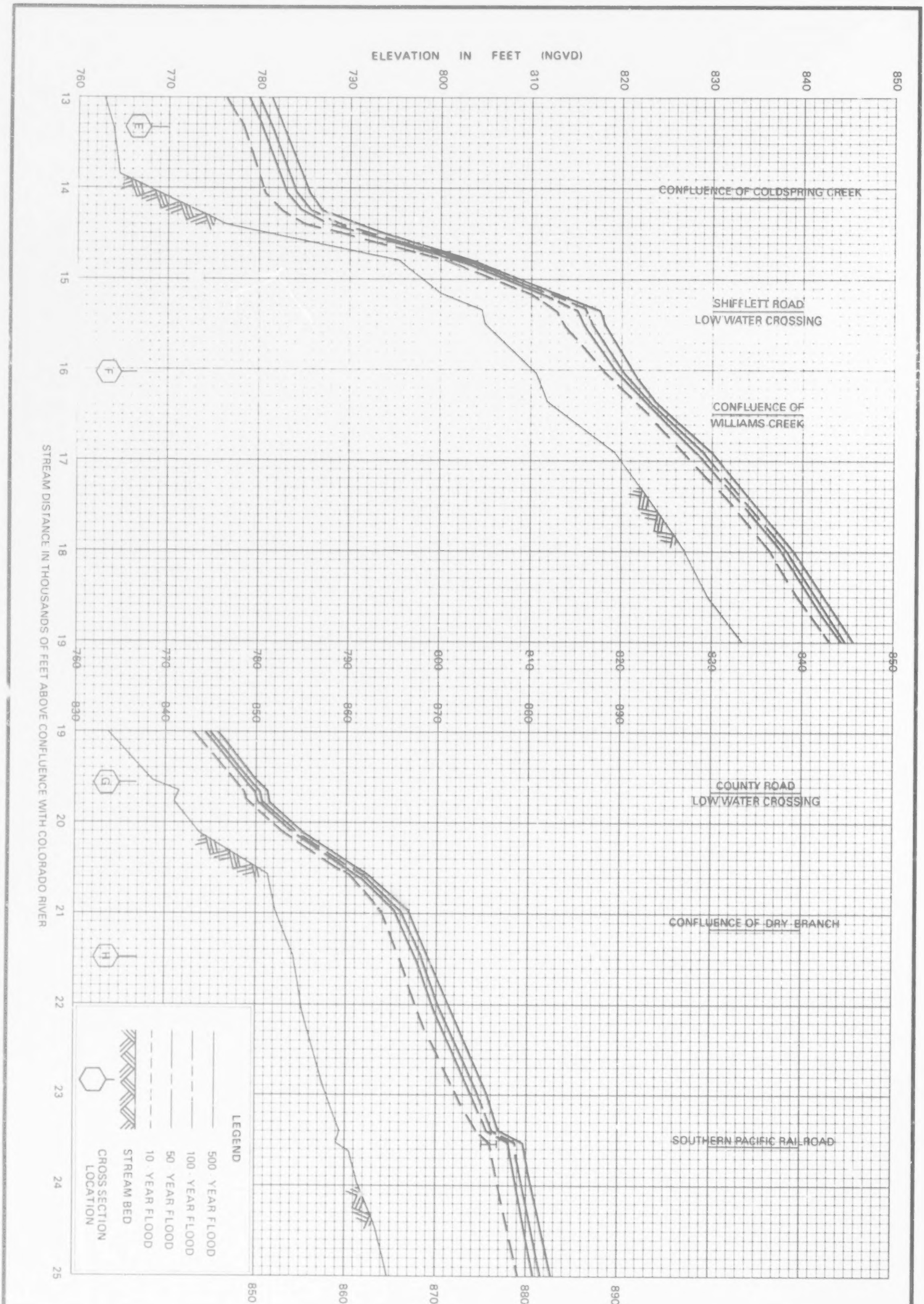
Reference Mark	FIRM Panel	Elevation (Feet NGVD)	Description of Location
RM 57	320	739.17	Iron pin with cap located in yard by gate of brown house, approximately 3.6 miles east on FM 2147 from intersection of U. S. Route 281 and FM 2147.
RM 58	320	995.41	Mark approximately 8.5 miles east of Marble Falls; on FM 1431, approximately 40 feet at centerline station 449+55, new mark set approximately 42 feet from old mark at right angle to FM 1431.
RM 59	320	685.18	Reference mark at corner of metal boat ramp approximately 1.3 miles north of County Route 407 along dirt road.
RM 60	320	826.67	Reference mark is northeast side of County Route 407 approximately 2.2 miles north of intersection of County Route 404 and County Route 407.
RM 61	340	864.27	Iron pin with cap located on south side of FM 1431, approximately 11.1 miles east of U. S. Route 281.
RM 62	340	831.91	Iron pin with cap located on east side of FM 1431, approximately 15.1 miles east of FM 1431 from intersection of U. S. Route 281 and FM 1431.
RM 63	340	759.10	Iron pin with cap located at northeast corner of road intersecting with Spur 191, approximately 4.2 miles from State Route 71.
RM 64	340	857.44	Iron pin with cap located on north side of Turkey Bend Road, by a fence corner, approximately 1.8 miles from FM 1431.
RM 65	340	804.12	Iron pin with cap located on south side of Turkey Bend Road, approximately 0.8 mile from FM 1431.
RM 66	380	818.28	Iron pin with cap located on west side of road, approximately 1 mile east of Spur 191, and approximately 2 miles north of intersection of State Route 71 and Spur 191.

EXHIBIT 3 - ELEVATION REFERENCE MARKS (continued)

Reference Mark	FIRM Panel	Elevation (Feet NGVD)	Description of Location
RM 67	380	819.64	Iron pin with cap north side of County Route 414 approximately 2,800 feet east of intersection of County Route 404 and County Route 414.



01P	FEDERAL EMERGENCY MANAGEMENT AGENCY BURNET COUNTY, TX AND INCORPORATED AREAS	FLOOD PROFILES BACKBONE CREEK



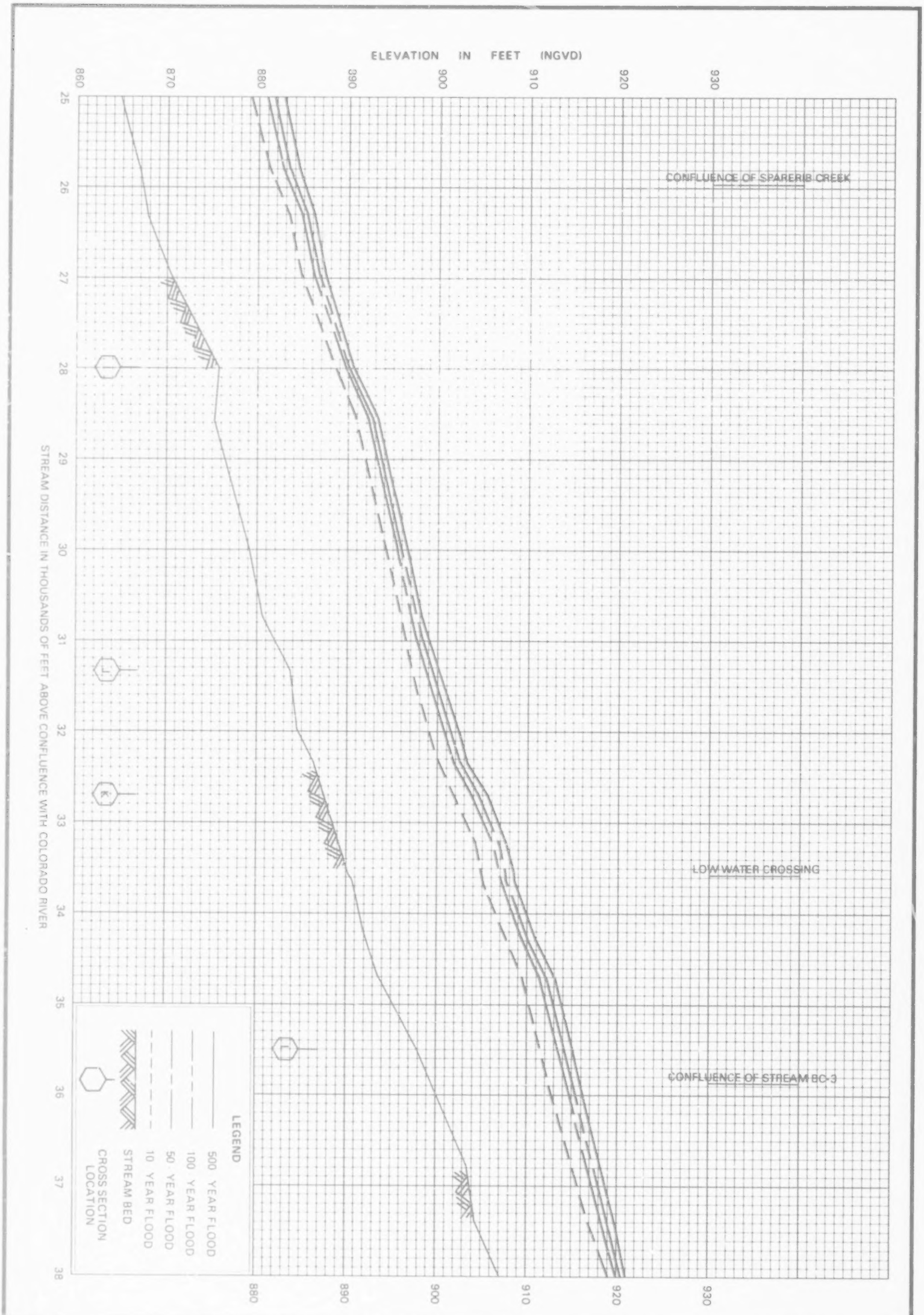
02P

FEDERAL EMERGENCY MANAGEMENT AGENCY

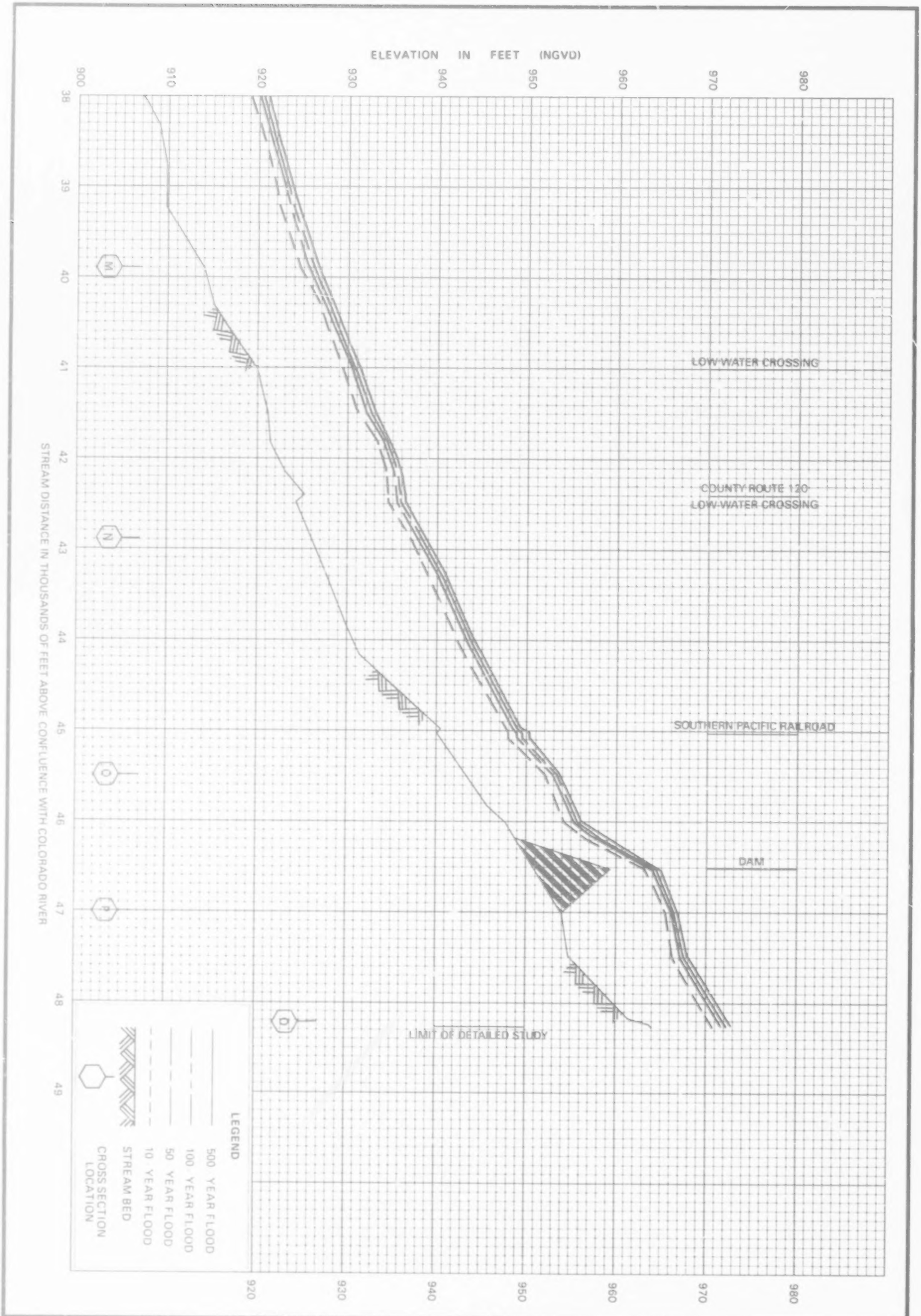
BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

BACKBONE CREEK



03P	FEDERAL EMERGENCY MANAGEMENT AGENCY BURNET COUNTY, TX AND INCORPORATED AREAS	FLOOD PROFILES BACKBONE CREEK



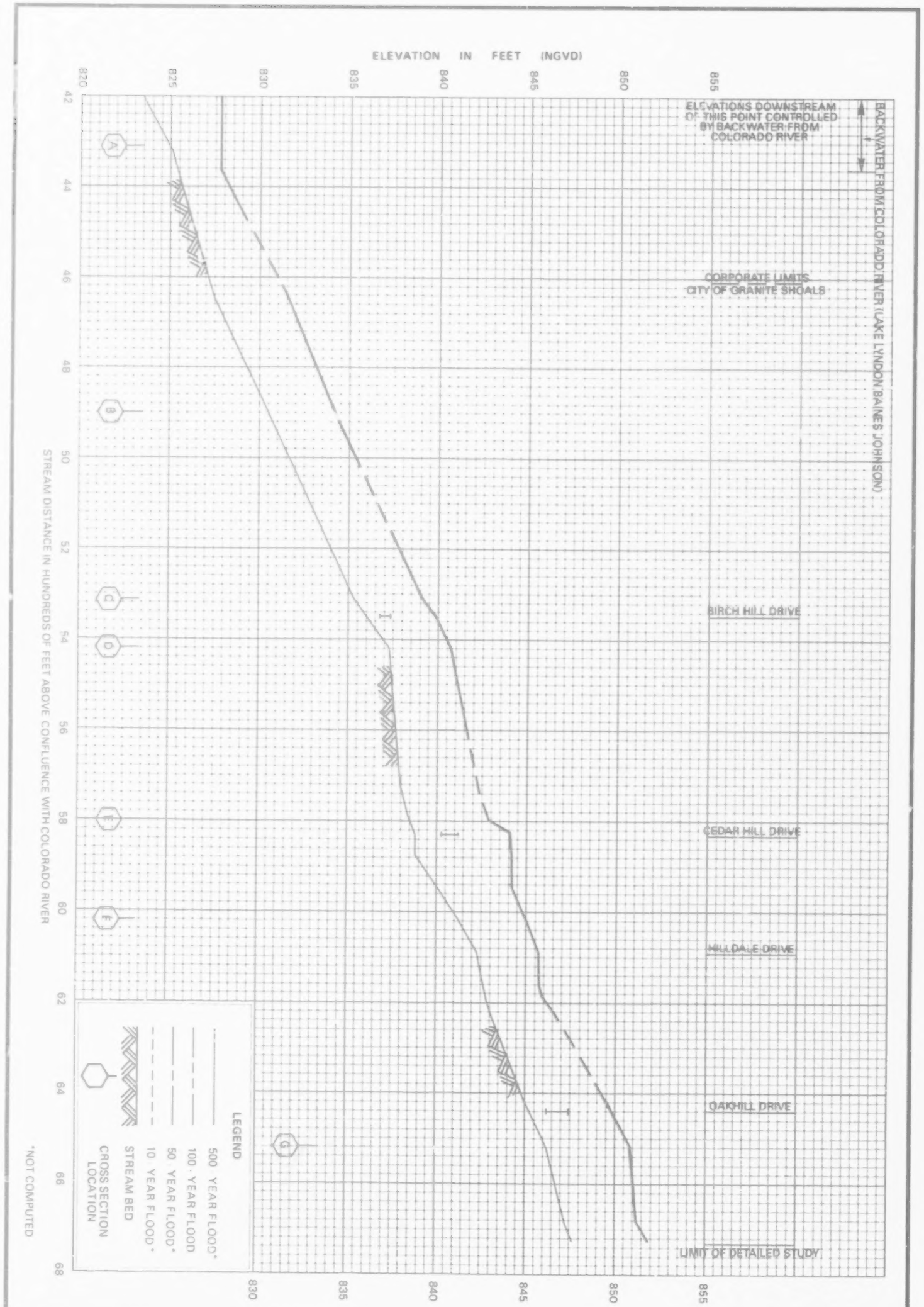
04P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

BACKBONE CREEK



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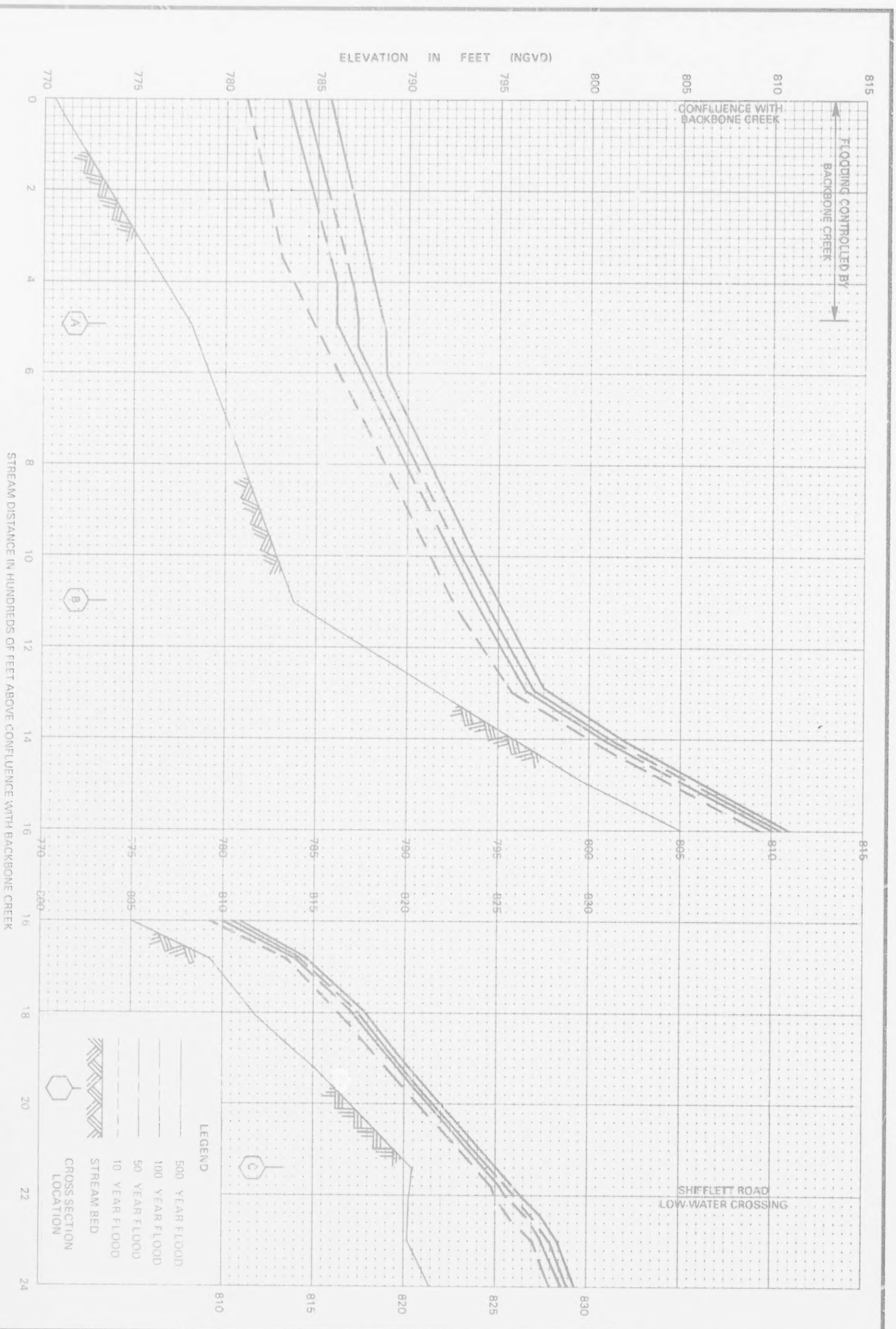


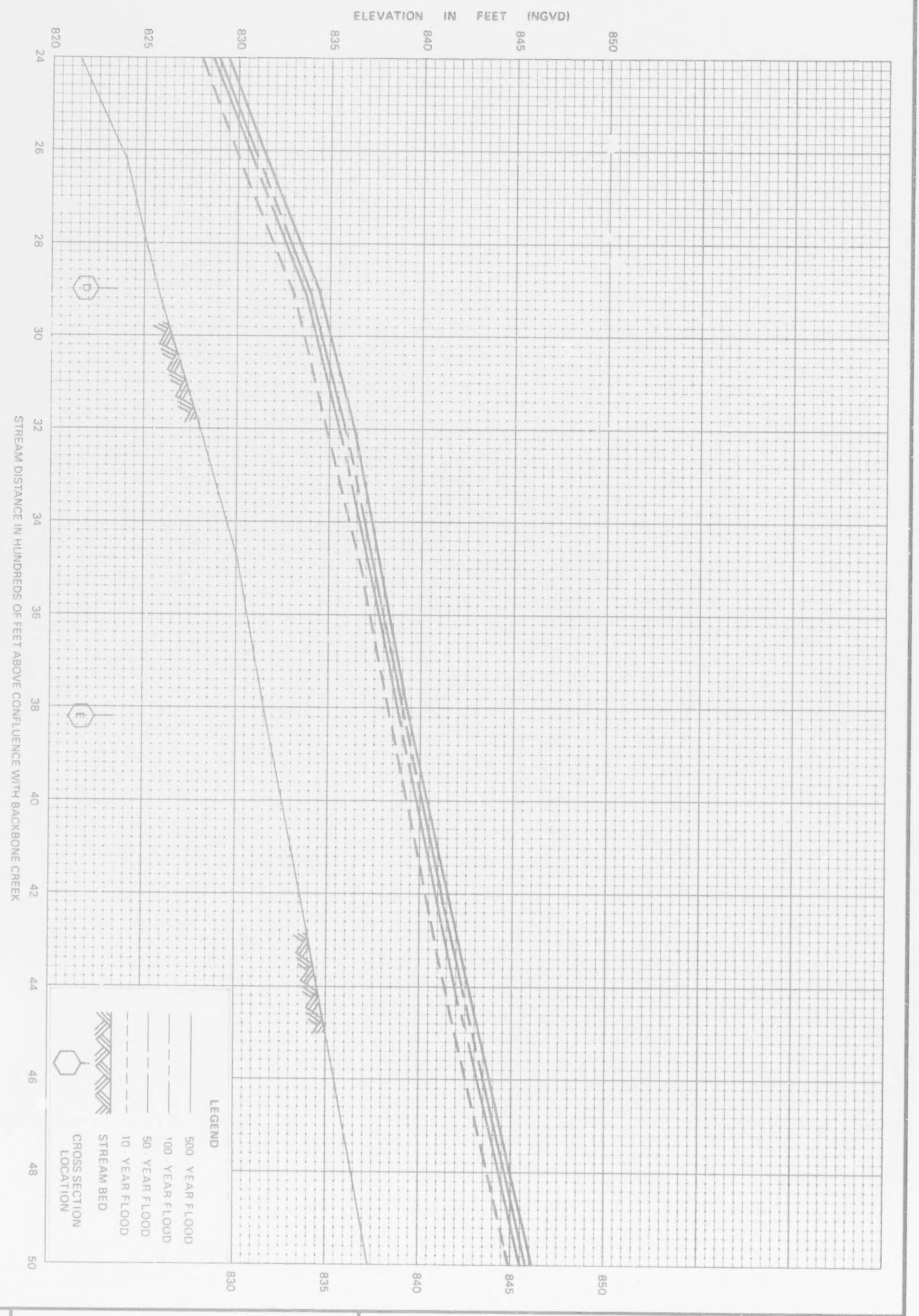
FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
(AND INCORPORATED AREAS)

FLOOD PROFILES

COLDSPRING CREEK

06P



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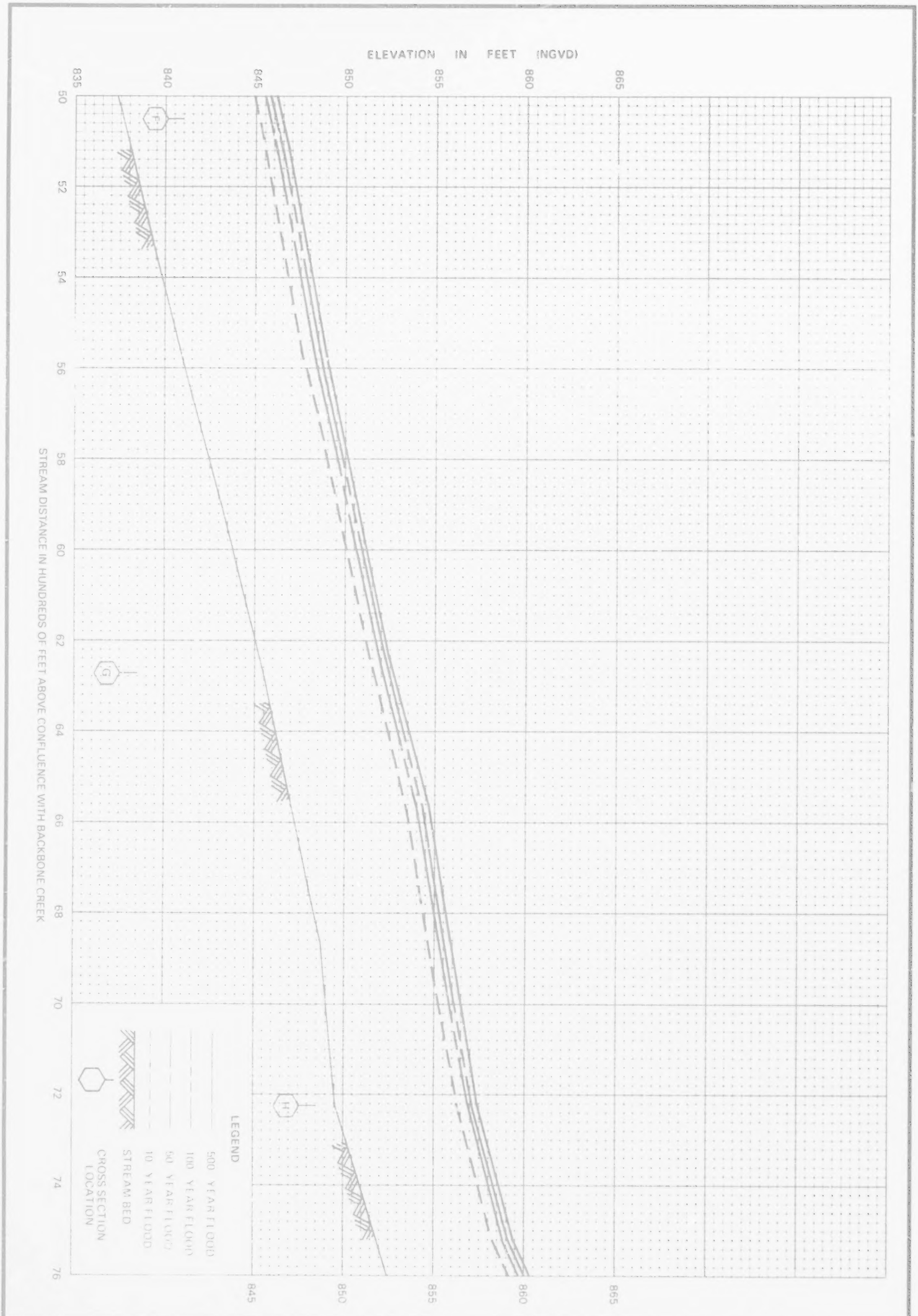

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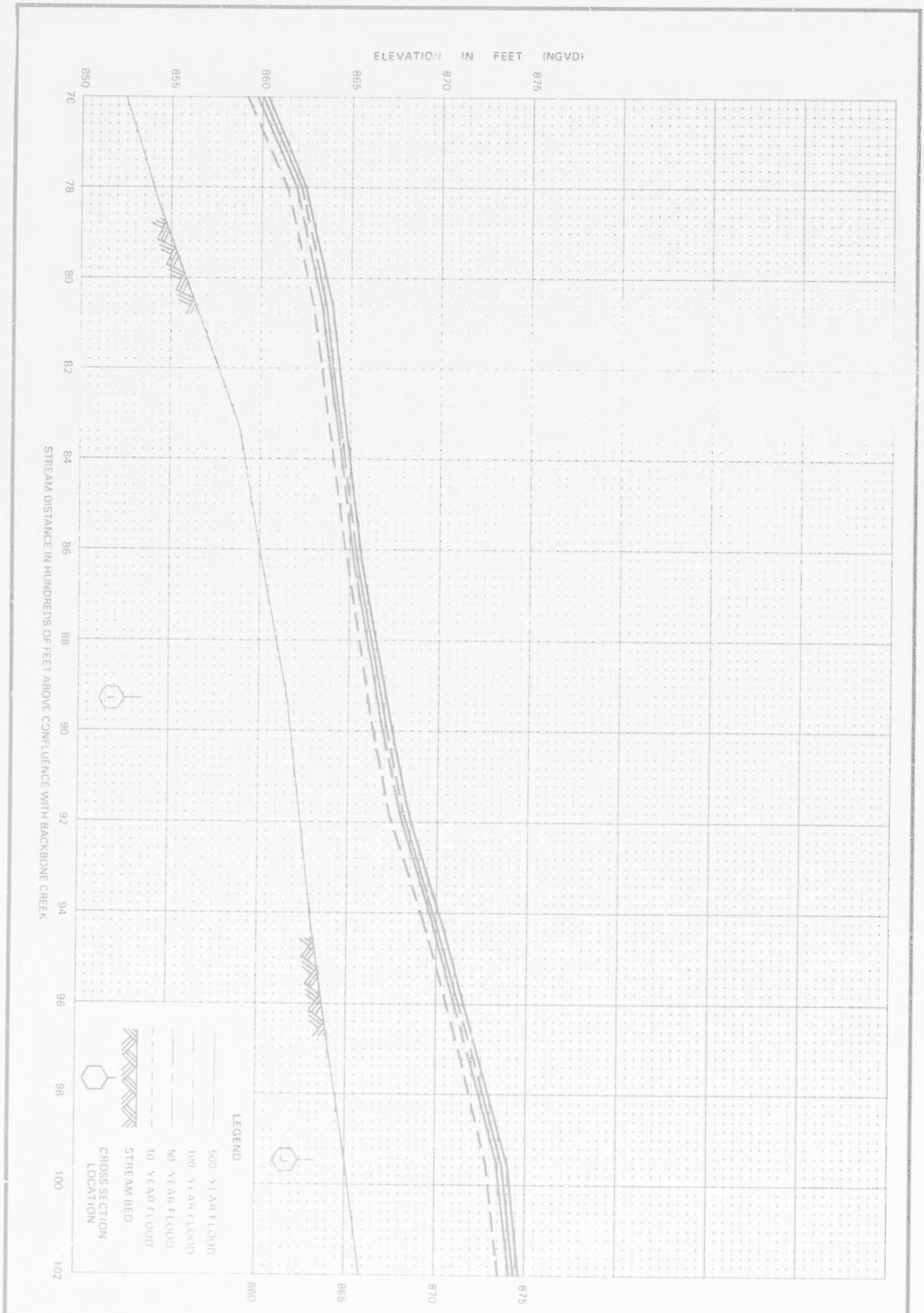

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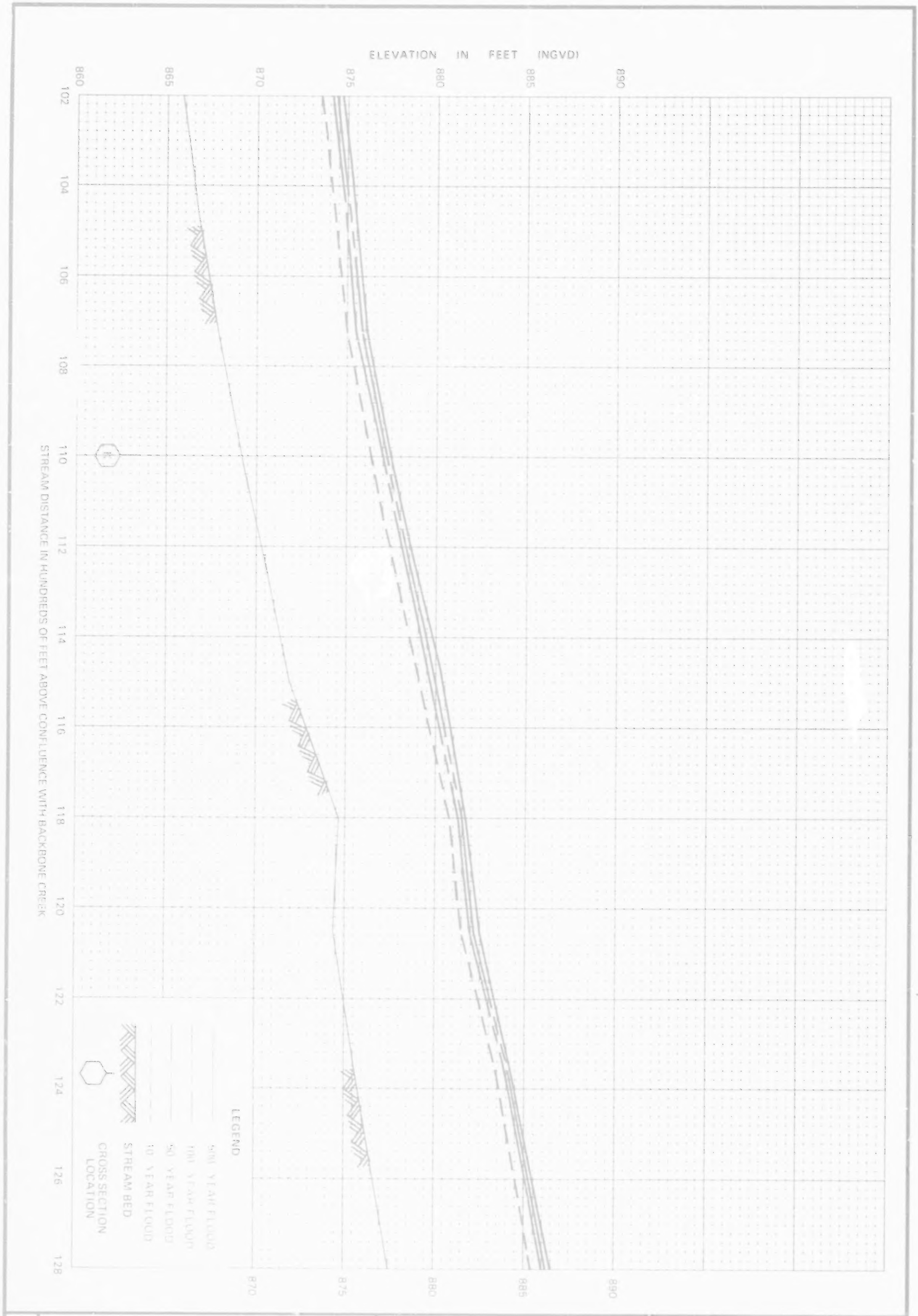


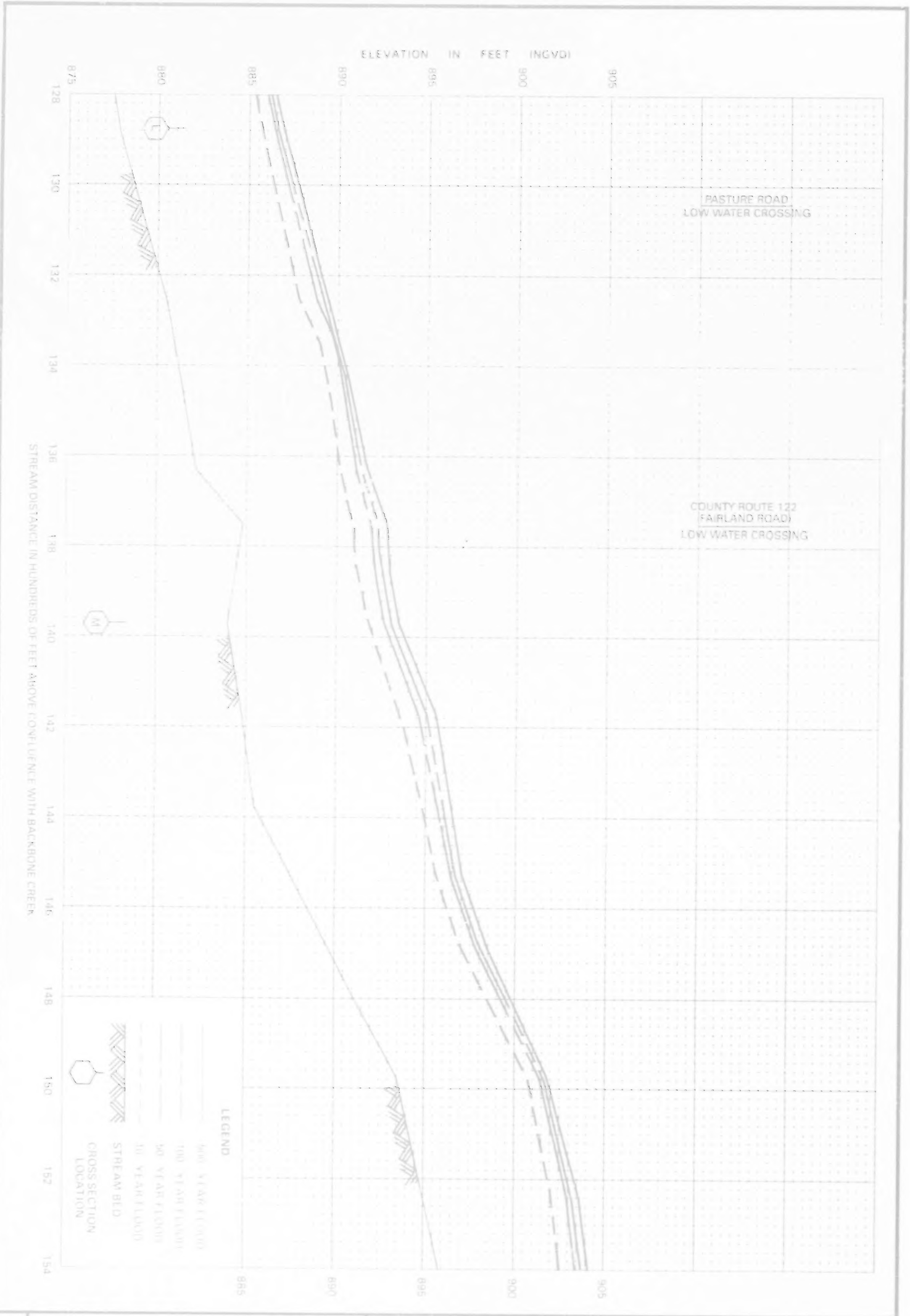
10P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

COLDSPRING CREEK


ELEVATION IN FEET (NGVD)
875
880
885
890
895
900
905
PASTURE ROAD
LOW WATER CROSSING
COUNTY ROUTE 122
(FAIRLAND ROAD)
LOW WATER CROSSING
STREAM DISTANCE IN HUNDREDS OF FEET ABOVE CONFLUENCE WITH BACKBONE CREEK
128
130
132
134
136
138
140
142
144
146
148
150
152
154
L
M
LEGEND
STREAM BED
CROSS SECTION LOCATION

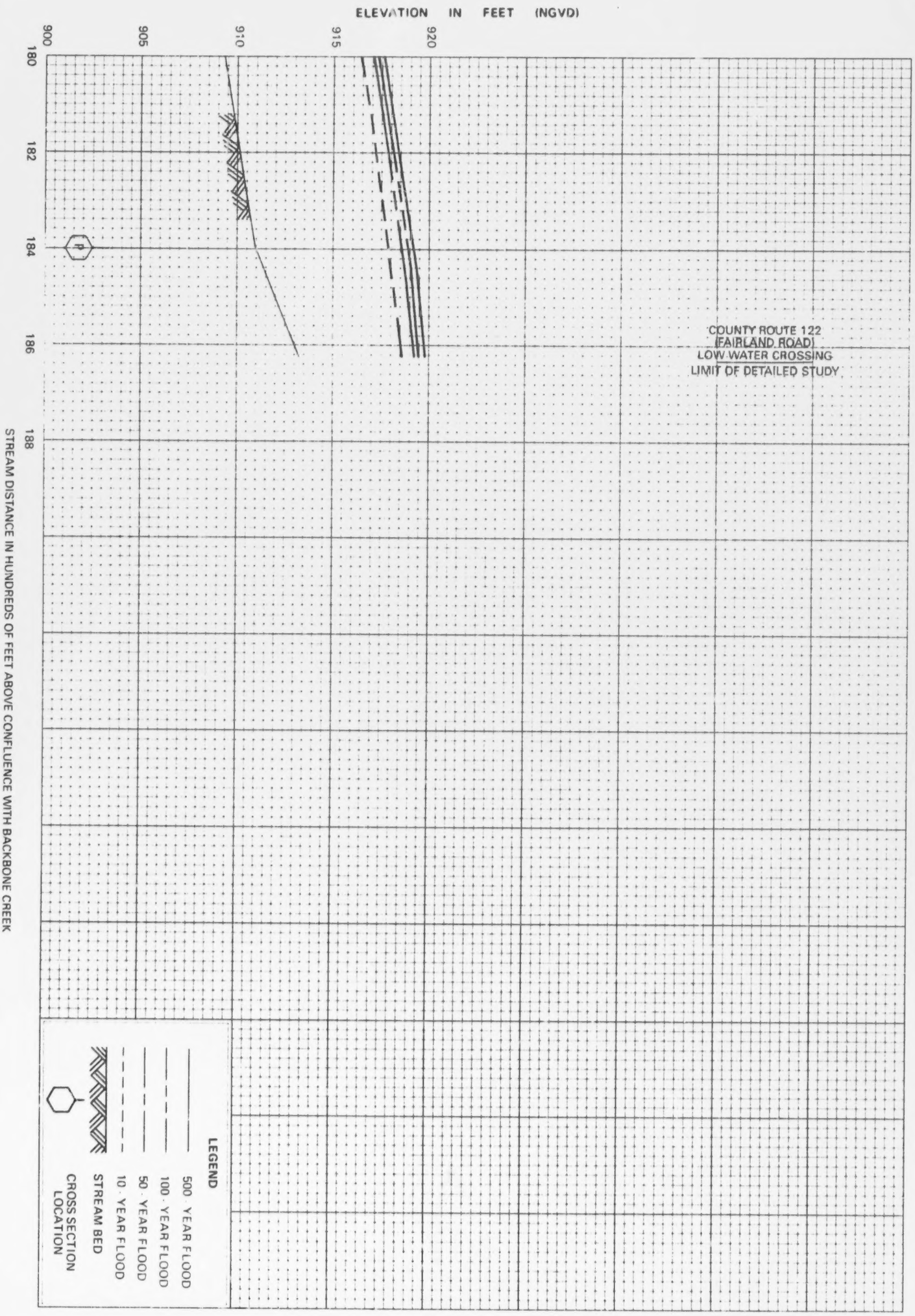
FLOOD PROFILES

COLDSPRING CREEK

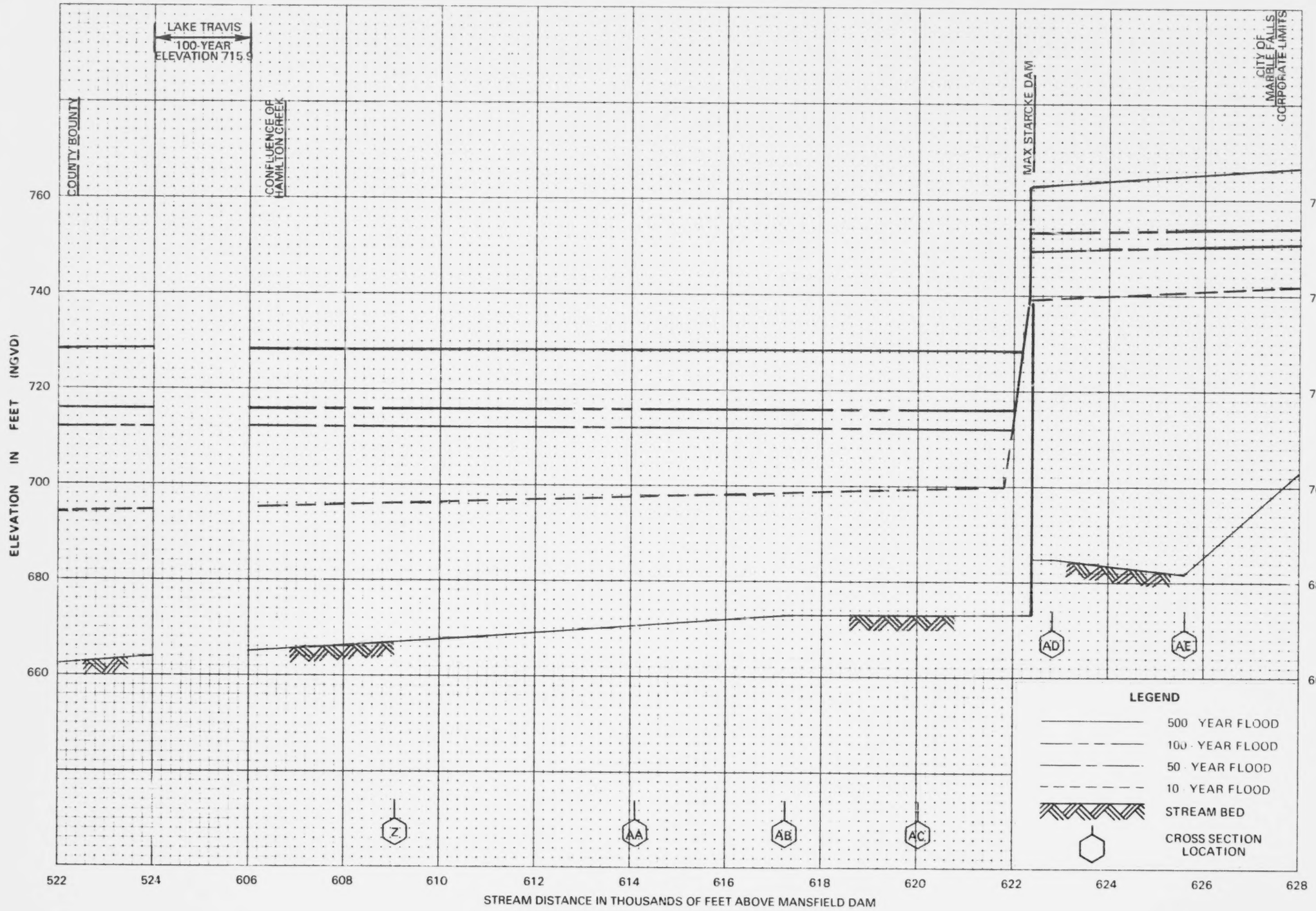
FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

12P



13P	FEDERAL EMERGENCY MANAGEMENT AGENCY **BURNET COUNTY, TX AND INCORPORATED AREAS**	**FLOOD PROFILES** **COLDSPRING CREEK**



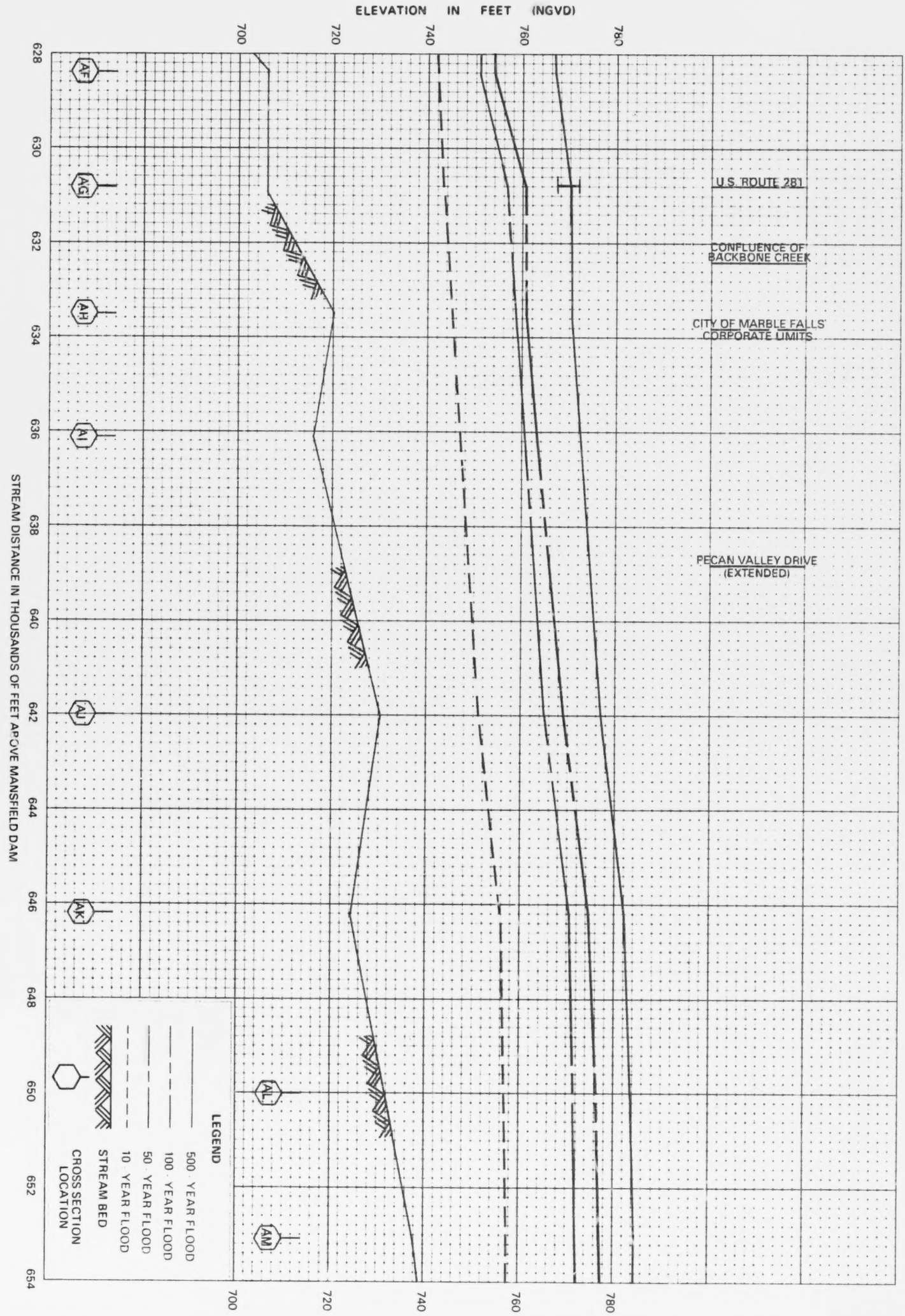
FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

14P



15P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

COLORADO RIVER

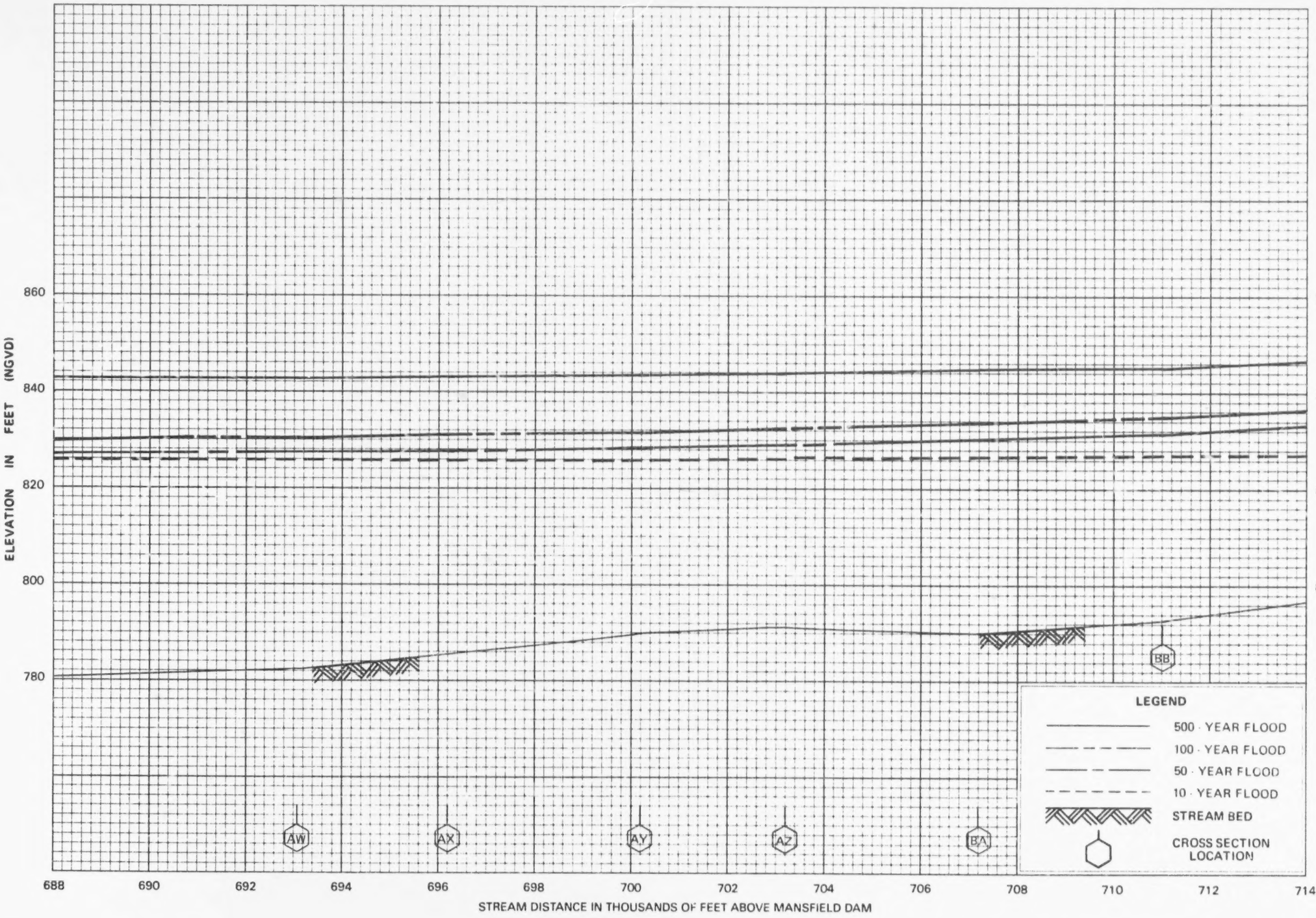
FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

16P



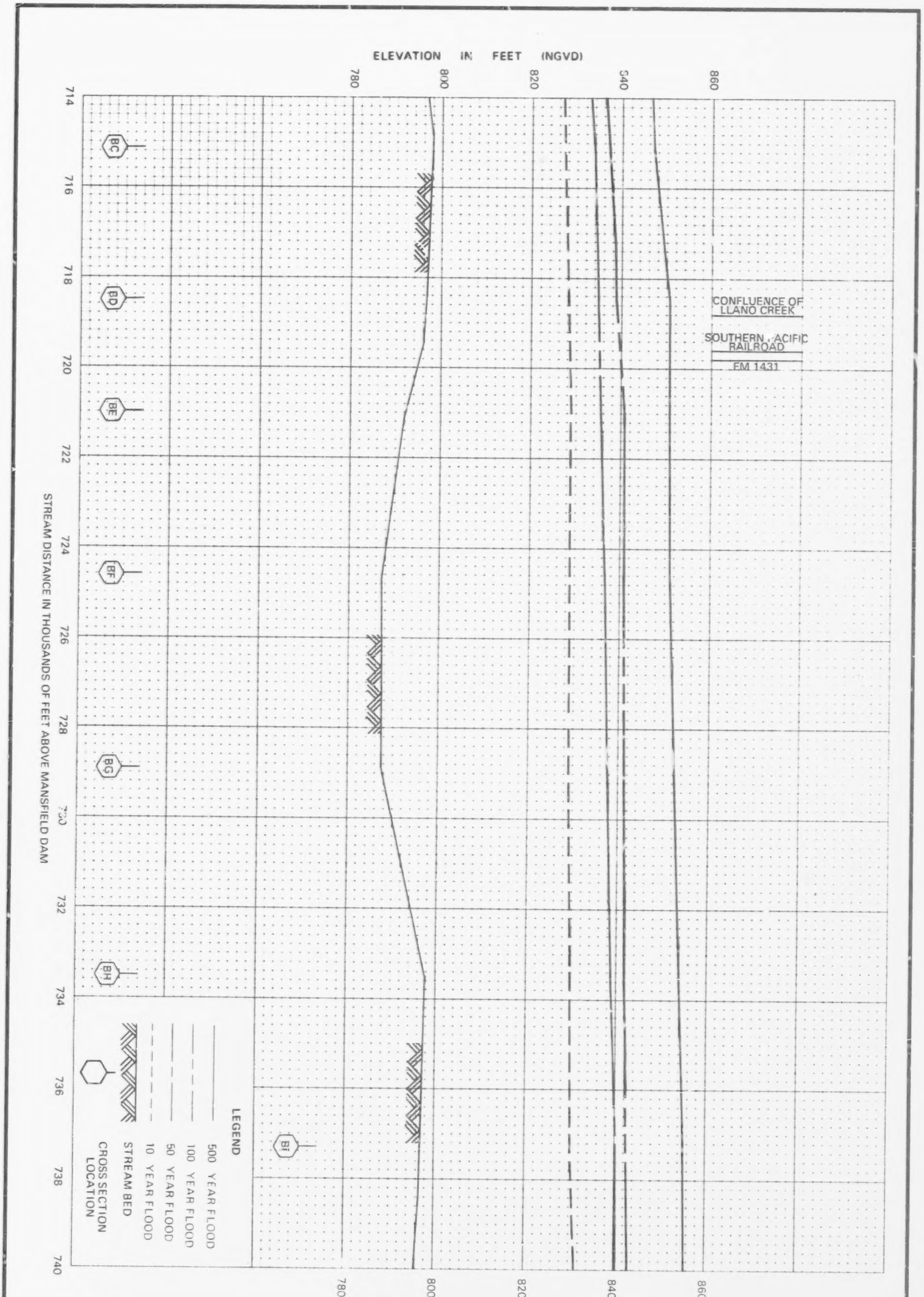
FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

17P



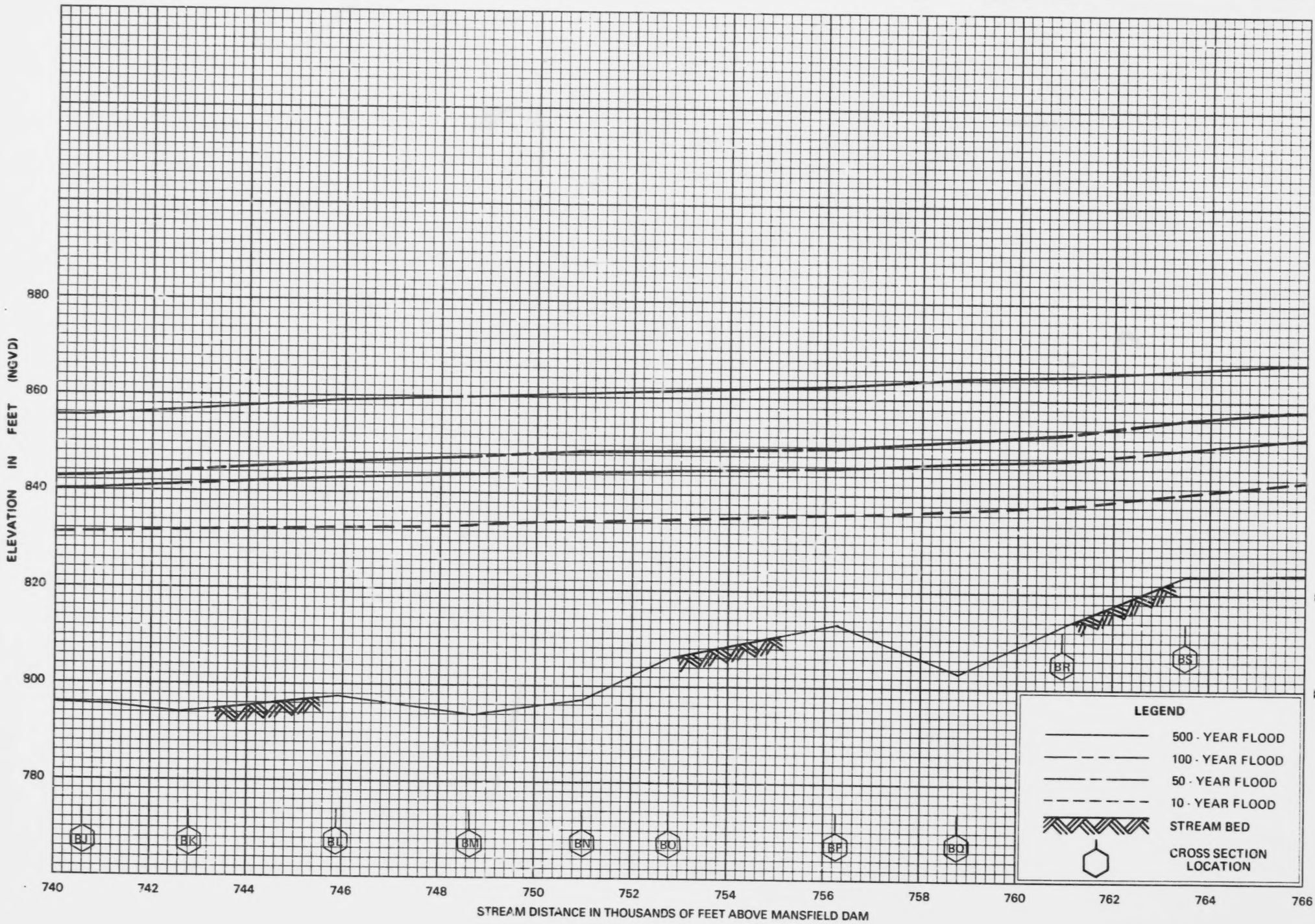
18P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

COLORADO RIVER



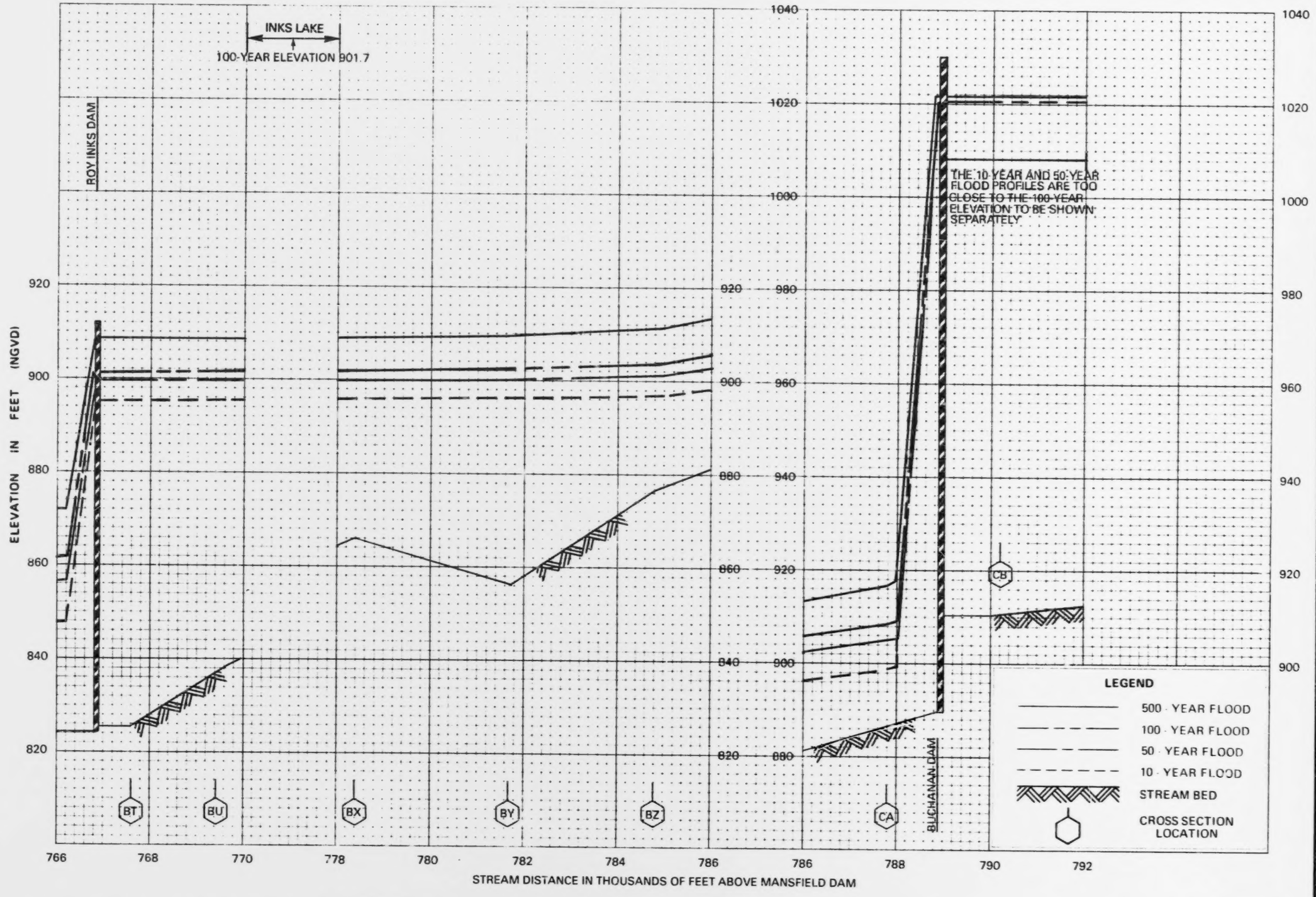
FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

19P



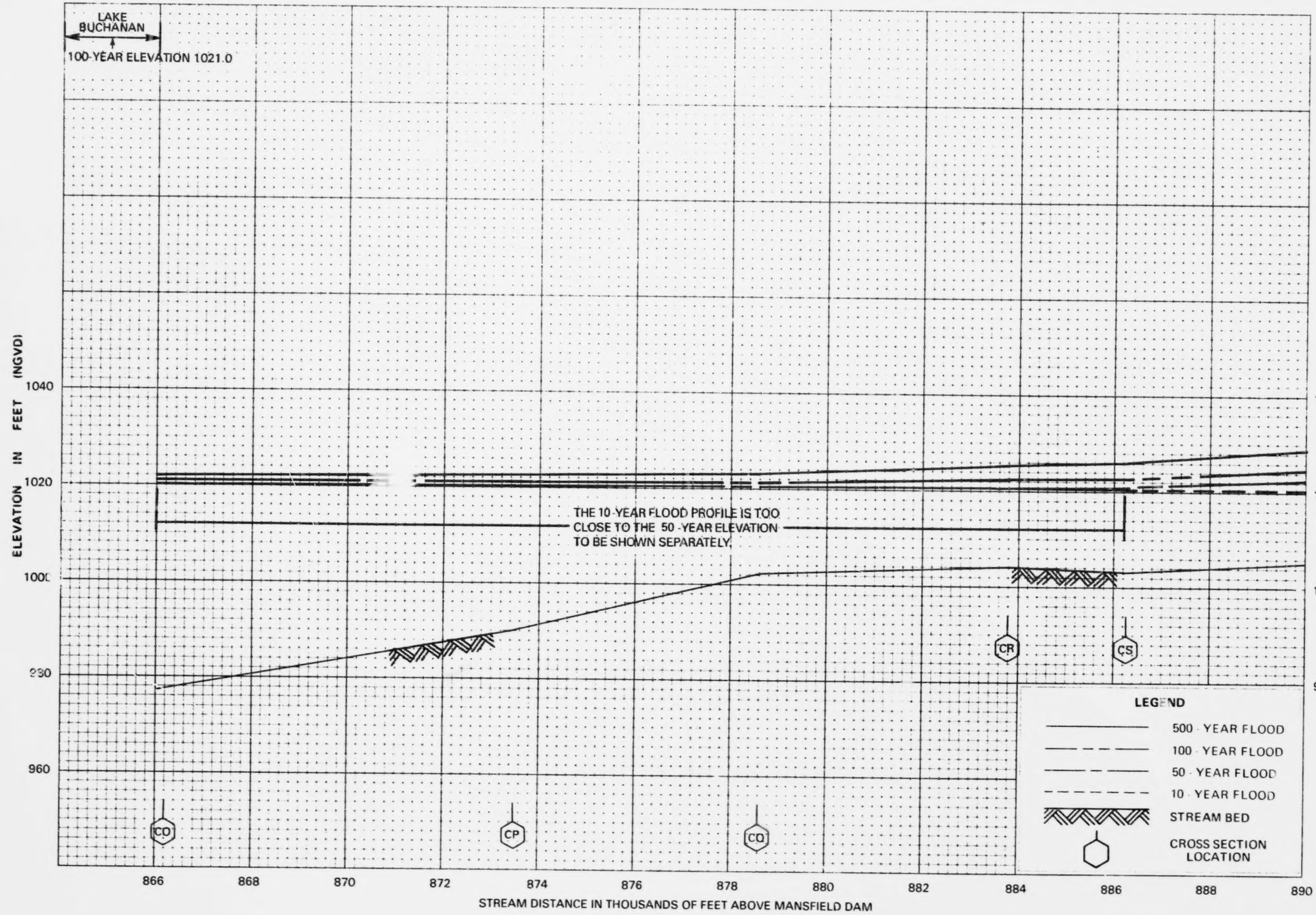
FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

20P



FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

21P

ELEVATION IN FEET (NGVD)

1060
1040
1020
1000

CT CU CV CW CX CY CZ

890 892 894 896 898 900 902 904 906 908 910 912 914 916

STREAM DISTANCE IN THOUSANDS OF FEET ABOVE MANSFIELD DAM

LEGEND

- 500 - YEAR FLOOD
- 100 - YEAR FLOOD
- 50 - YEAR FLOOD
- 10 - YEAR FLOOD
- STREAM BED
- CROSS SECTION LOCATION

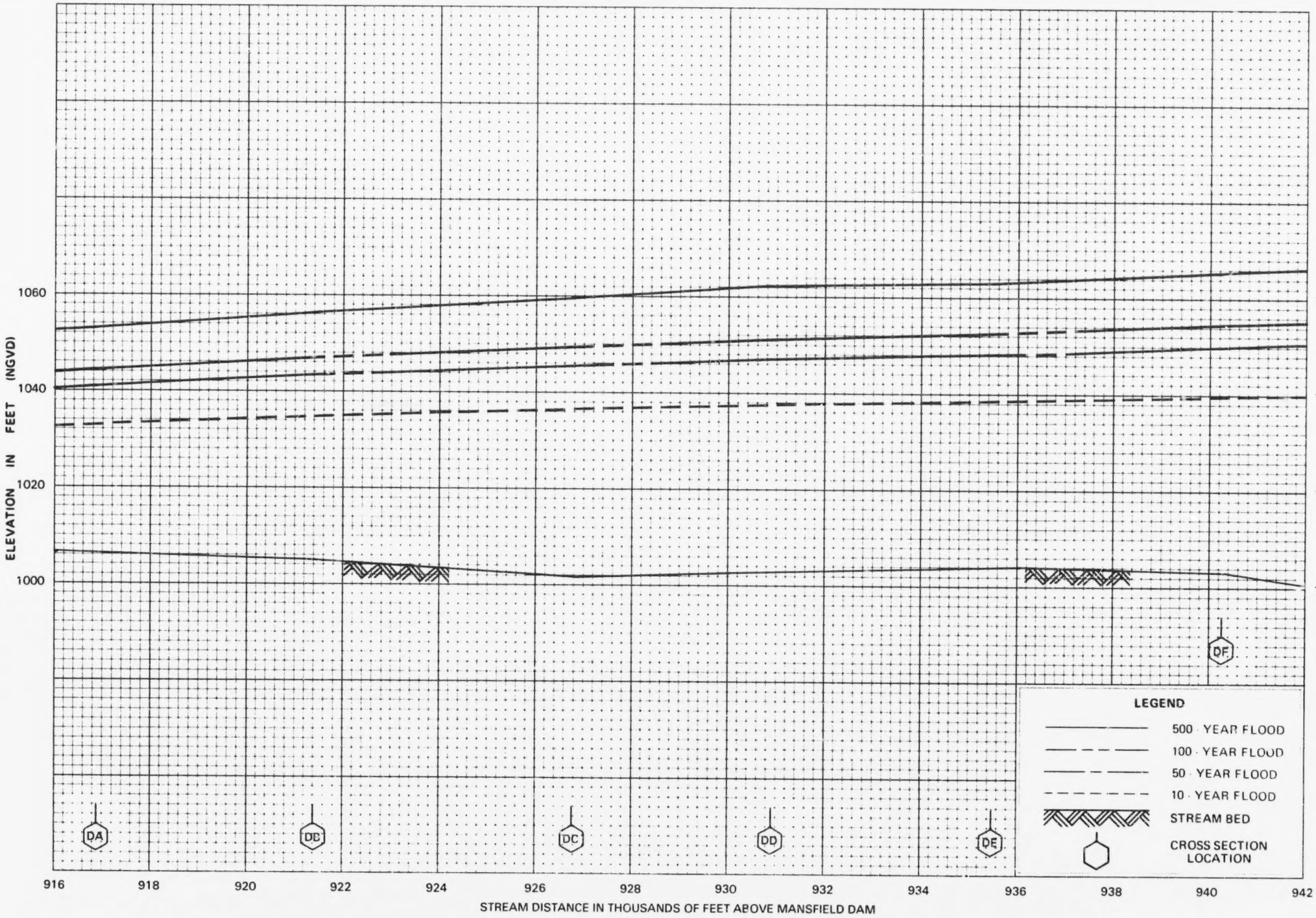
FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

22P



FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

23P

COUNTY BOUNDARY

ELEVATION IN FEET (NGVD)

1080
1060
1040
1020
1000
980

DG
DH
DI

942 944 946 948 950 952 954 956

STREAM DISTANCE IN THOUSANDS OF FEET ABOVE MANSFIELD DAM

LEGEND

- 500 - YEAR FLOOD
- 100 - YEAR FLOOD
- 50 - YEAR FLOOD
- 10 - YEAR FLOOD
- STREAM BED
- CROSS SECTION LOCATION

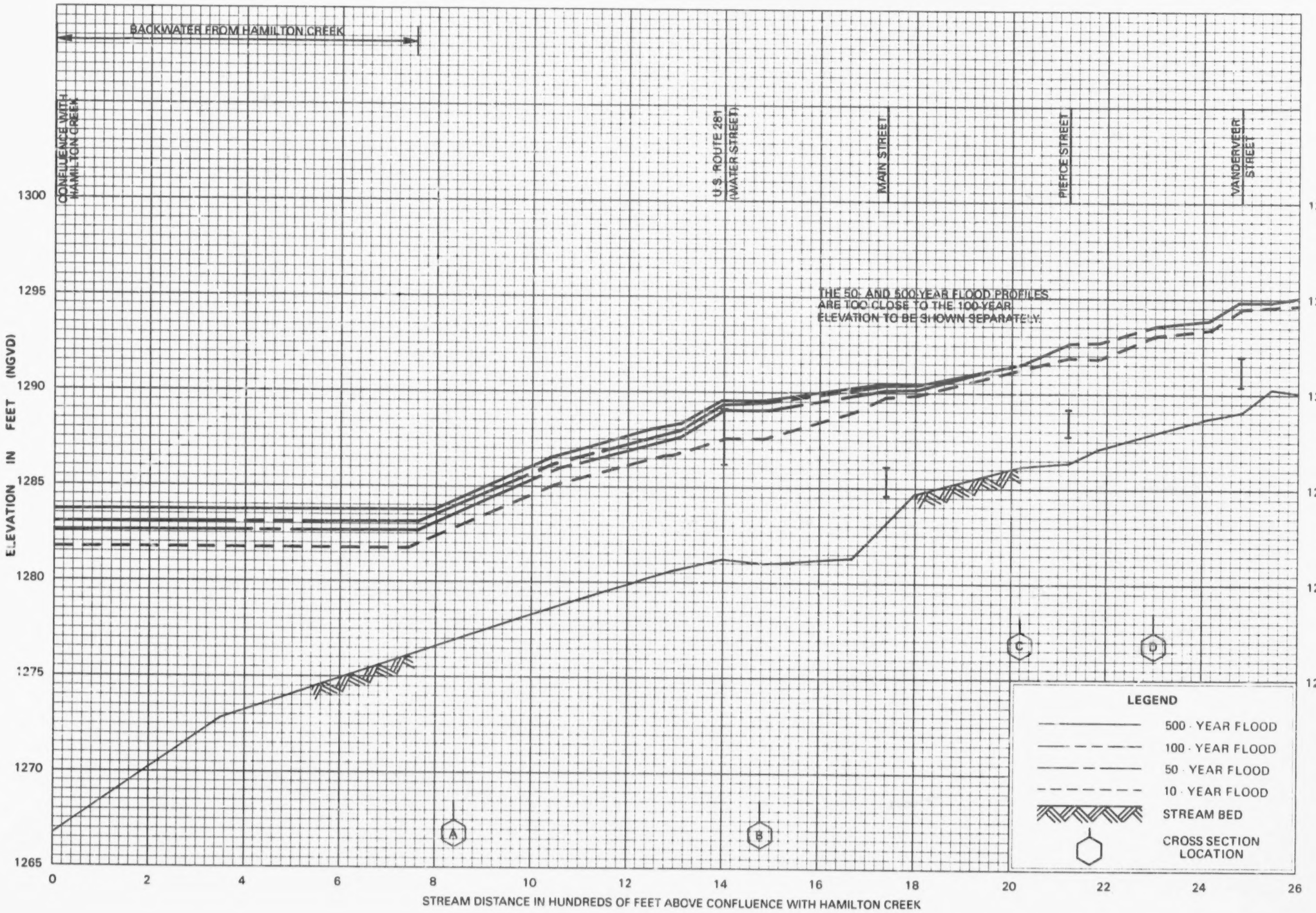
FLOOD PROFILES

COLORADO RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

24P



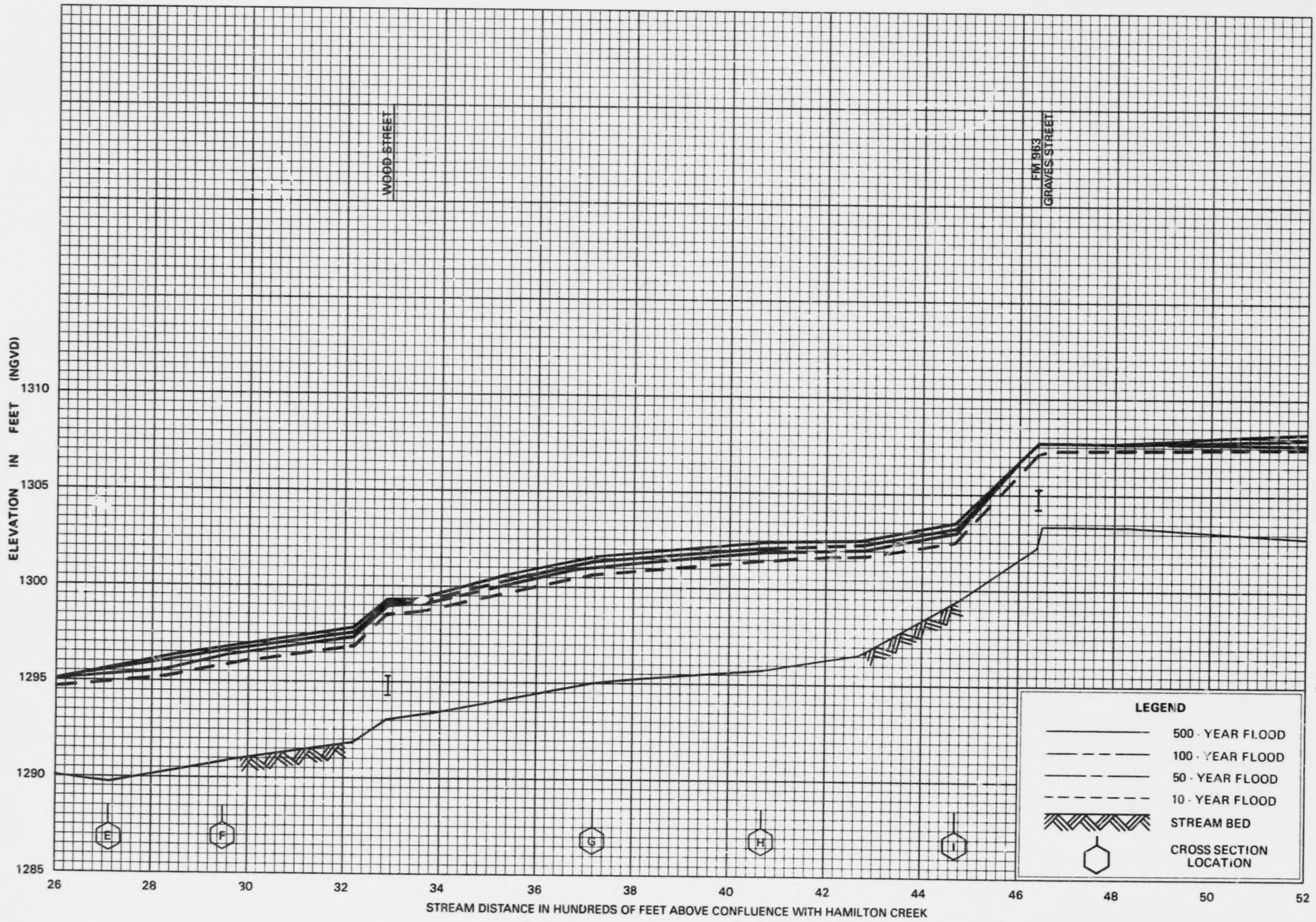
FLOOD PROFILES

DAUGHERTY BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

25P



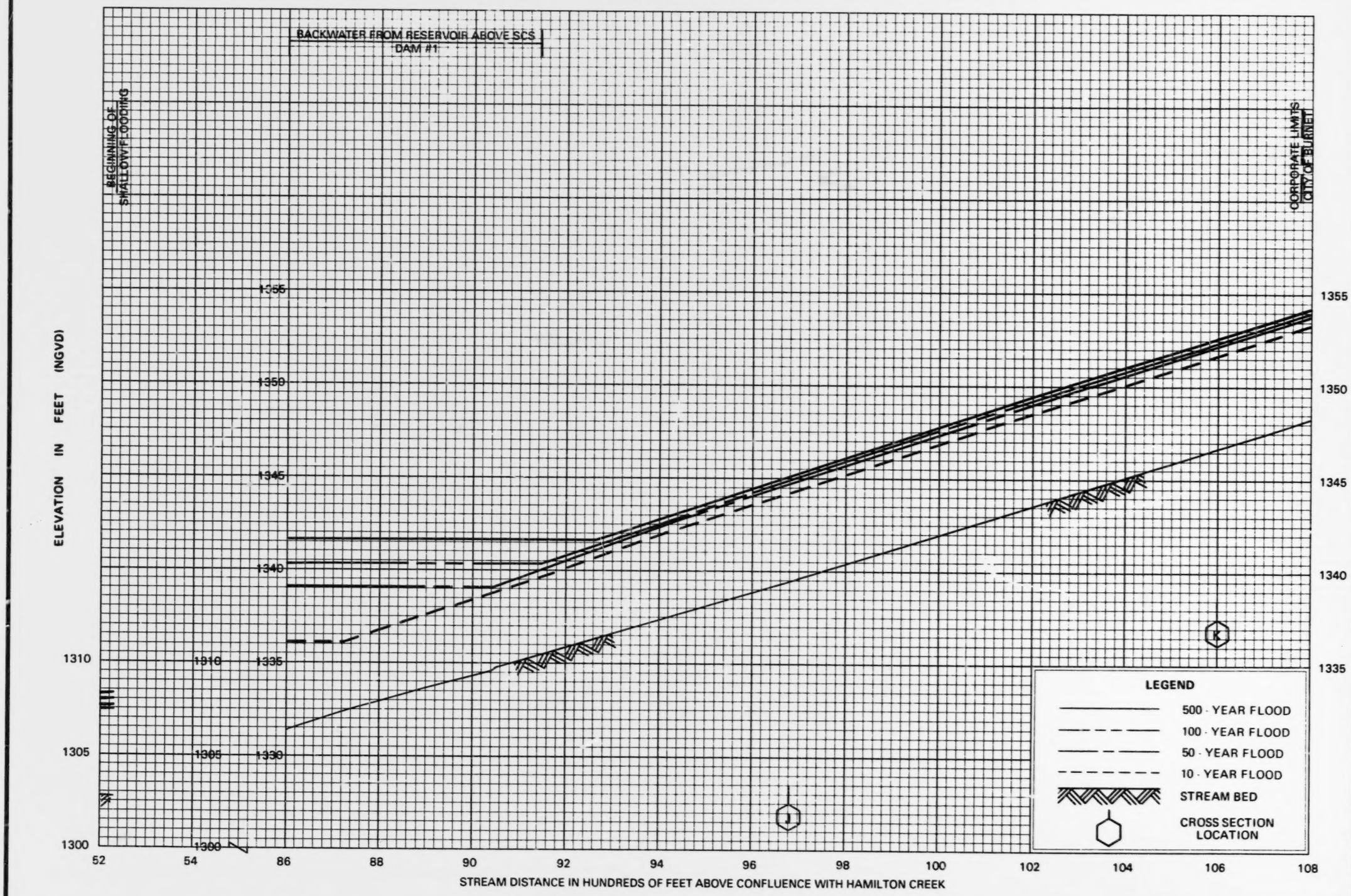
FLOOD PROFILES

DAUGHERTY BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

26P



FLOOD PROFILES

DAUGHERTY BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

27P

16

FLOOD PROFILES

DAUGHERTY BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

28P

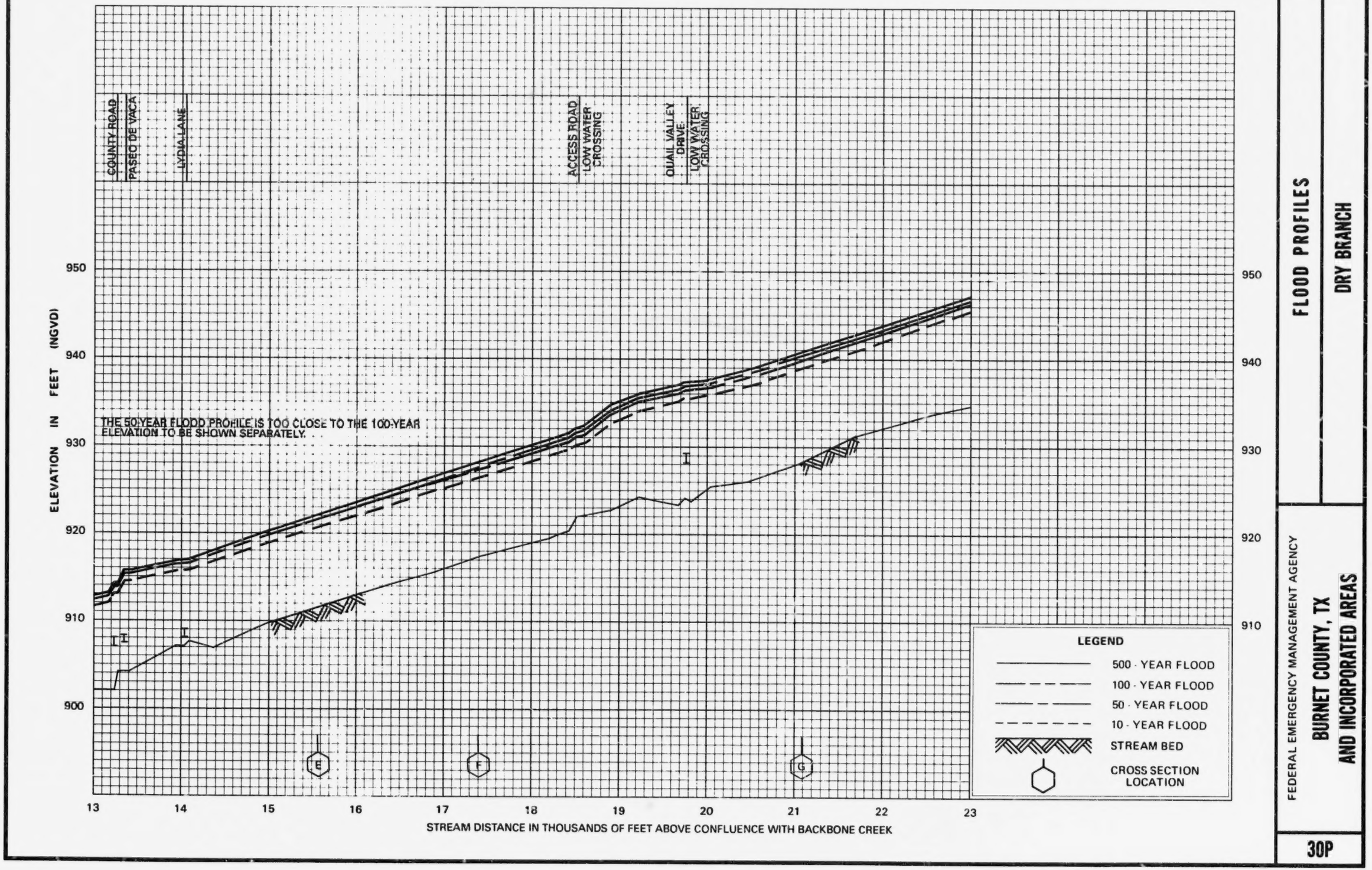
FLOOD PROFILES

DRY BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

29P



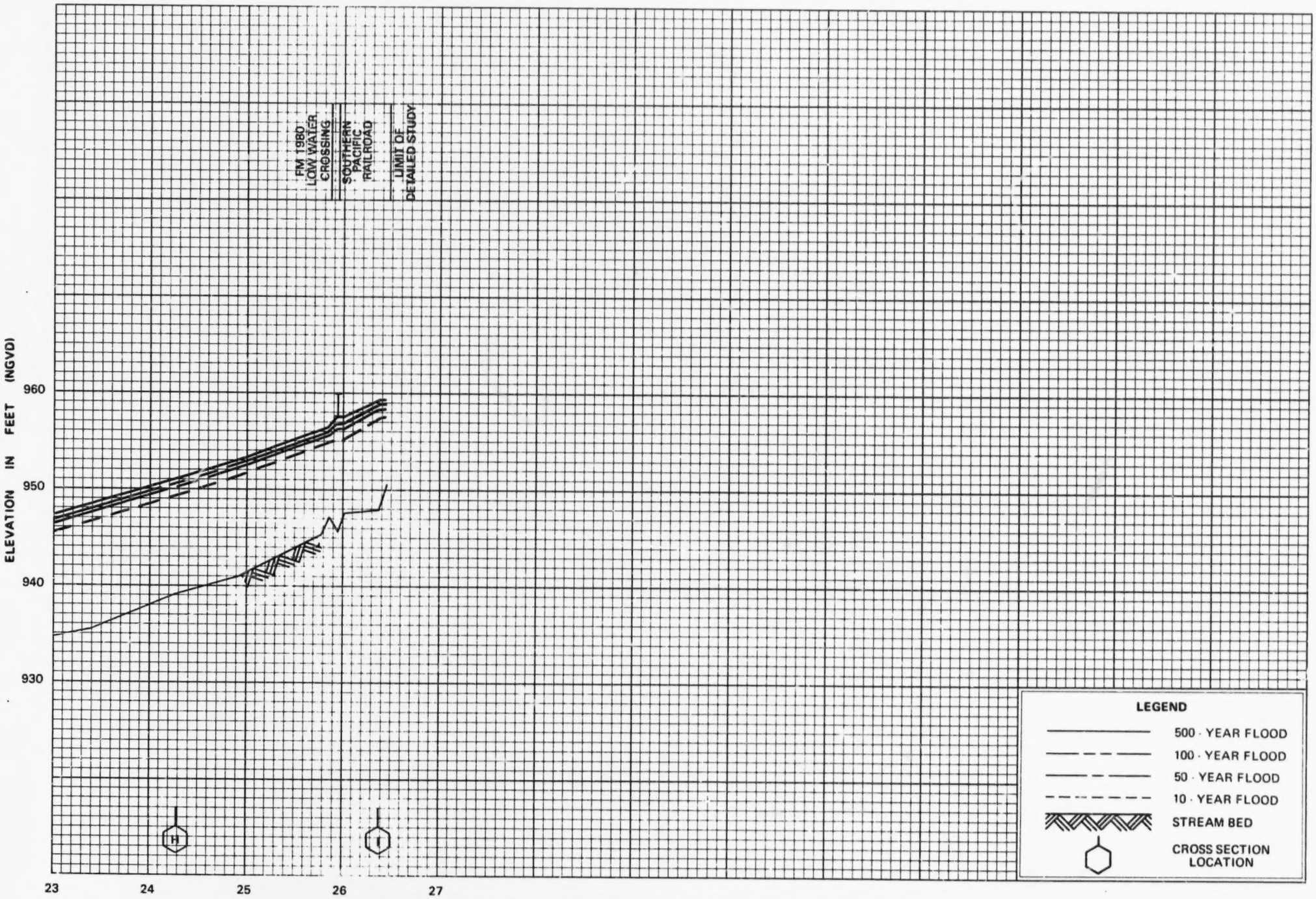
FLOOD PROFILES

DRY BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

30P



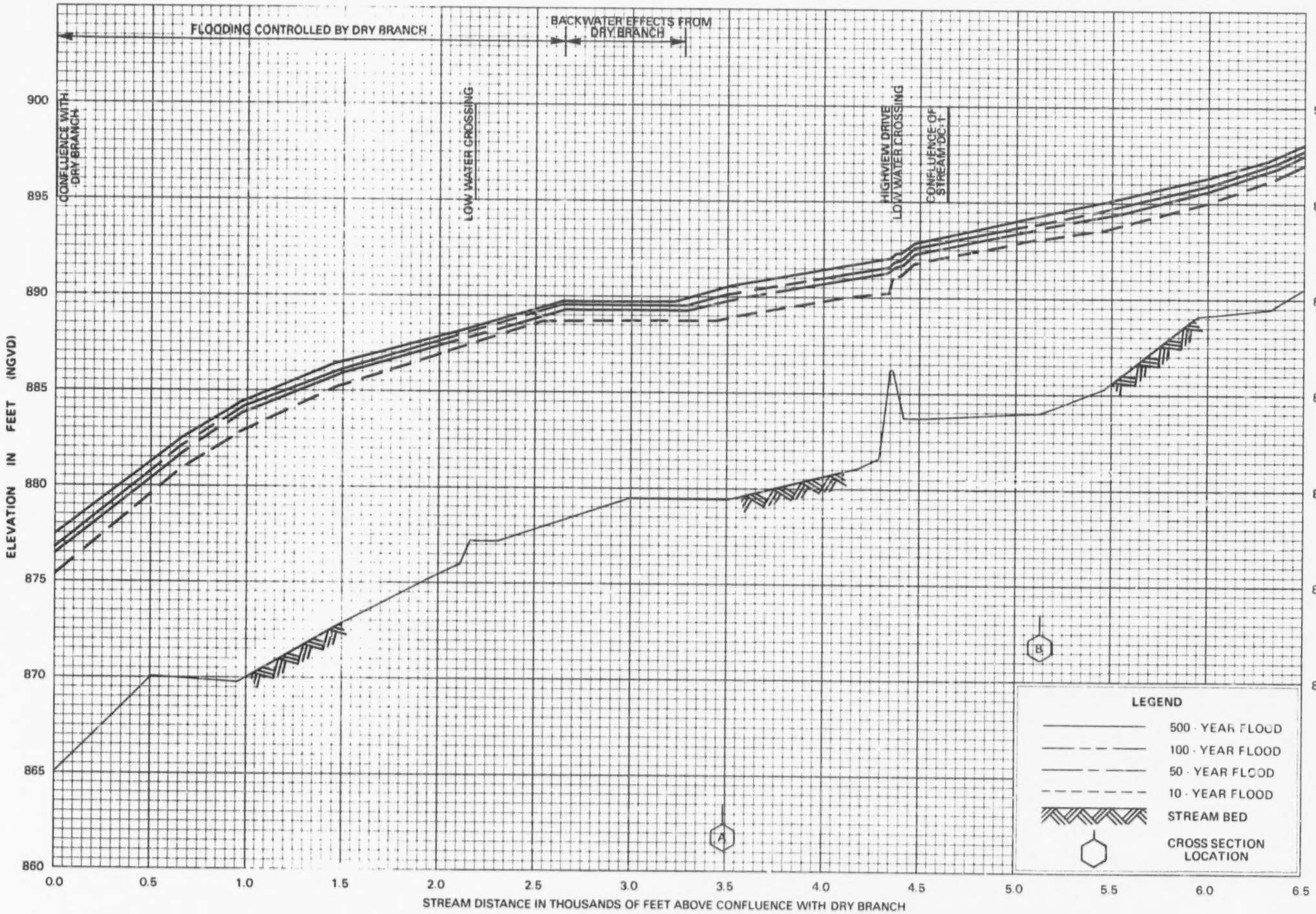
FLOOD PROFILES

DRY BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

31P



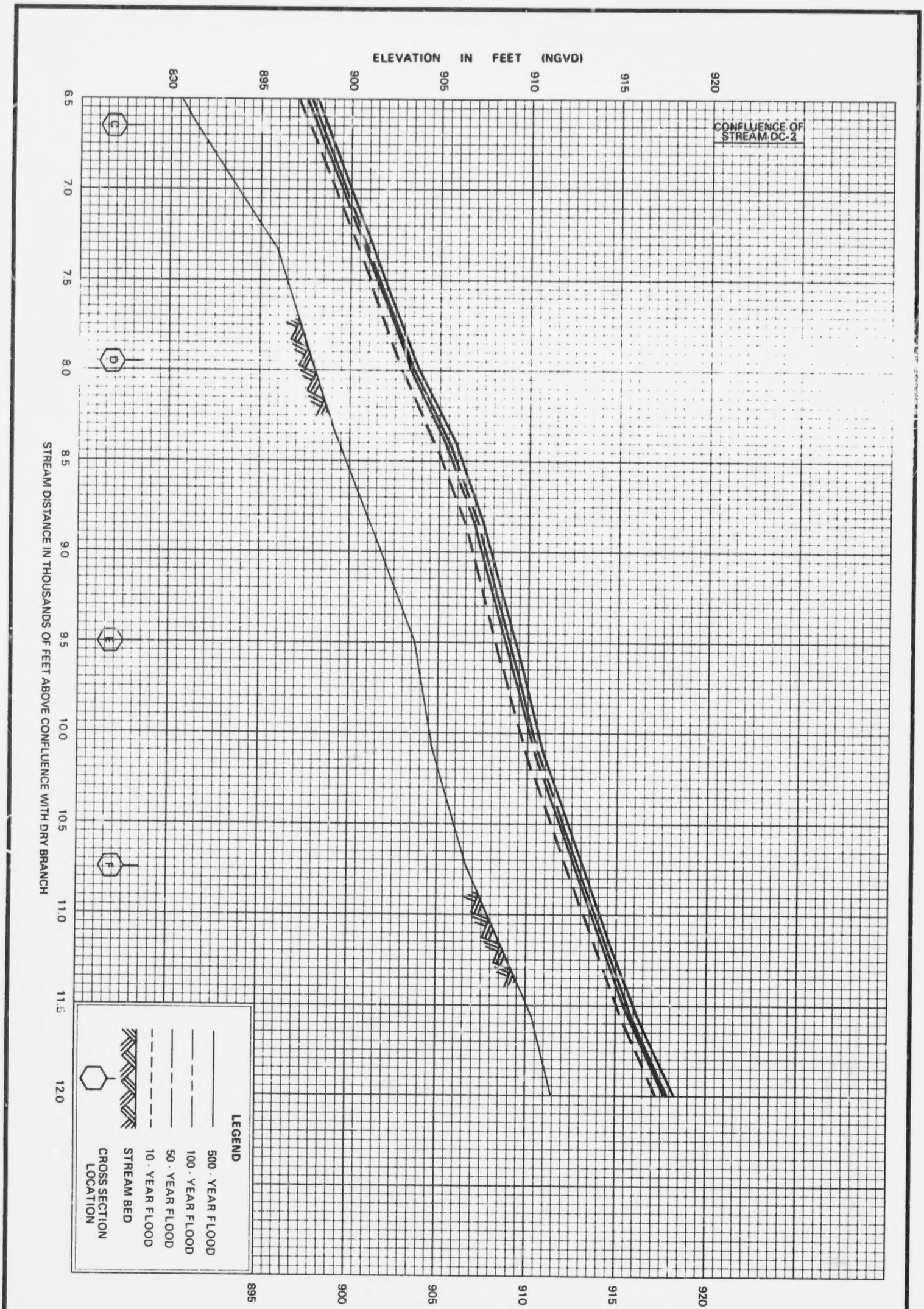
FLOOD PROFILES

DRY CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

32P

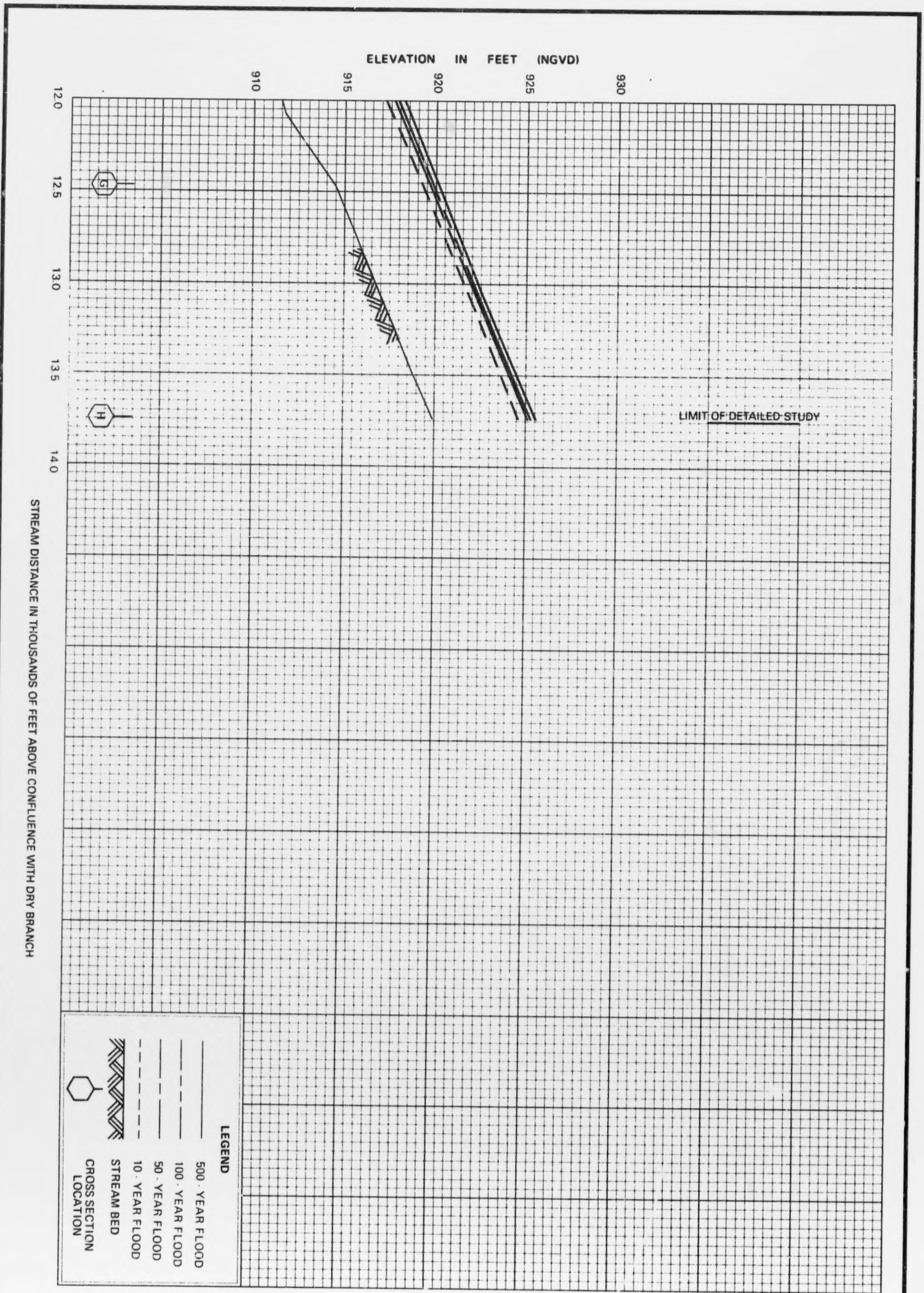


FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOOD PROFILES

DRY CREEK



83

34P	FEDERAL EMERGENCY MANAGEMENT AGENCY BURNET COUNTY, TX AND INCORPORATED AREAS	FLOOD PROFILES DRY CREEK

BACKWATER FROM COLORADO RIVER (LAKE LYNDON BAINES JOHNSON)

CONFLUENCE OF STREAM EC-1

CONFLUENCE OF STREAM EC-2

HILLWOOD DRIVE
CONFLUENCE OF STREAM EC-4

CONFLUENCE OF STREAM EC-5

ELEVATIONS DOWNSTREAM OF THIS POINT CONTROLLED BY BACKWATER FROM COLORADO RIVER

ELEVATION IN FEET (NGVD)

860
855
850
845
840
835
830
825
820
815

4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 9.5 10.0 10.5

STREAM DISTANCE IN THOUSANDS OF FEET ABOVE CONFLUENCE WITH COLORADO RIVER

A B C D E F G H I

LEGEND

- 500 - YEAR FLOOD
- 100 - YEAR FLOOD
- 50 - YEAR FLOOD
- 10 - YEAR FLOOD
- STREAM BED
- CROSS SECTION LOCATION

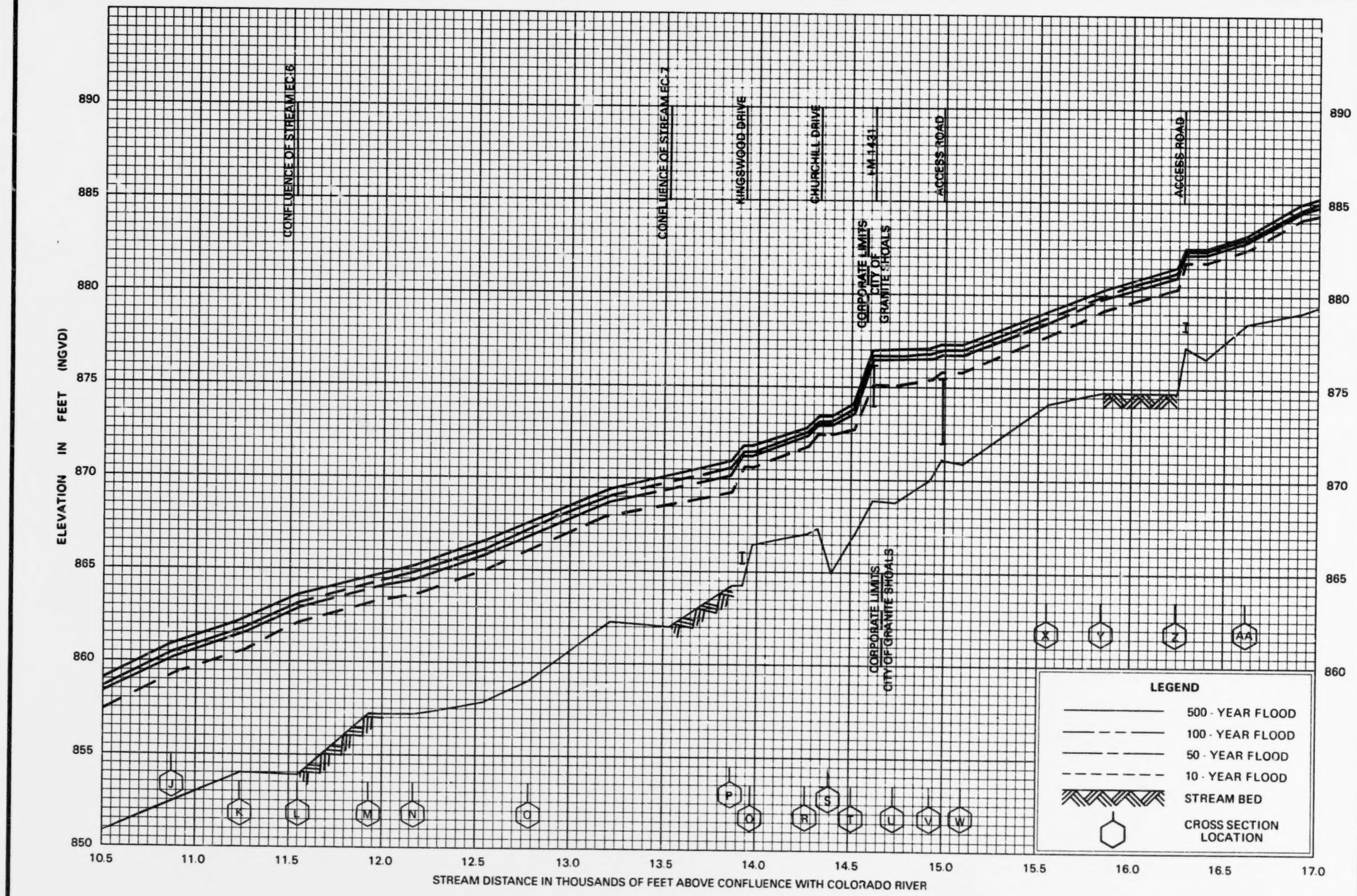
FLOOD PROFILES

ELM CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

35P



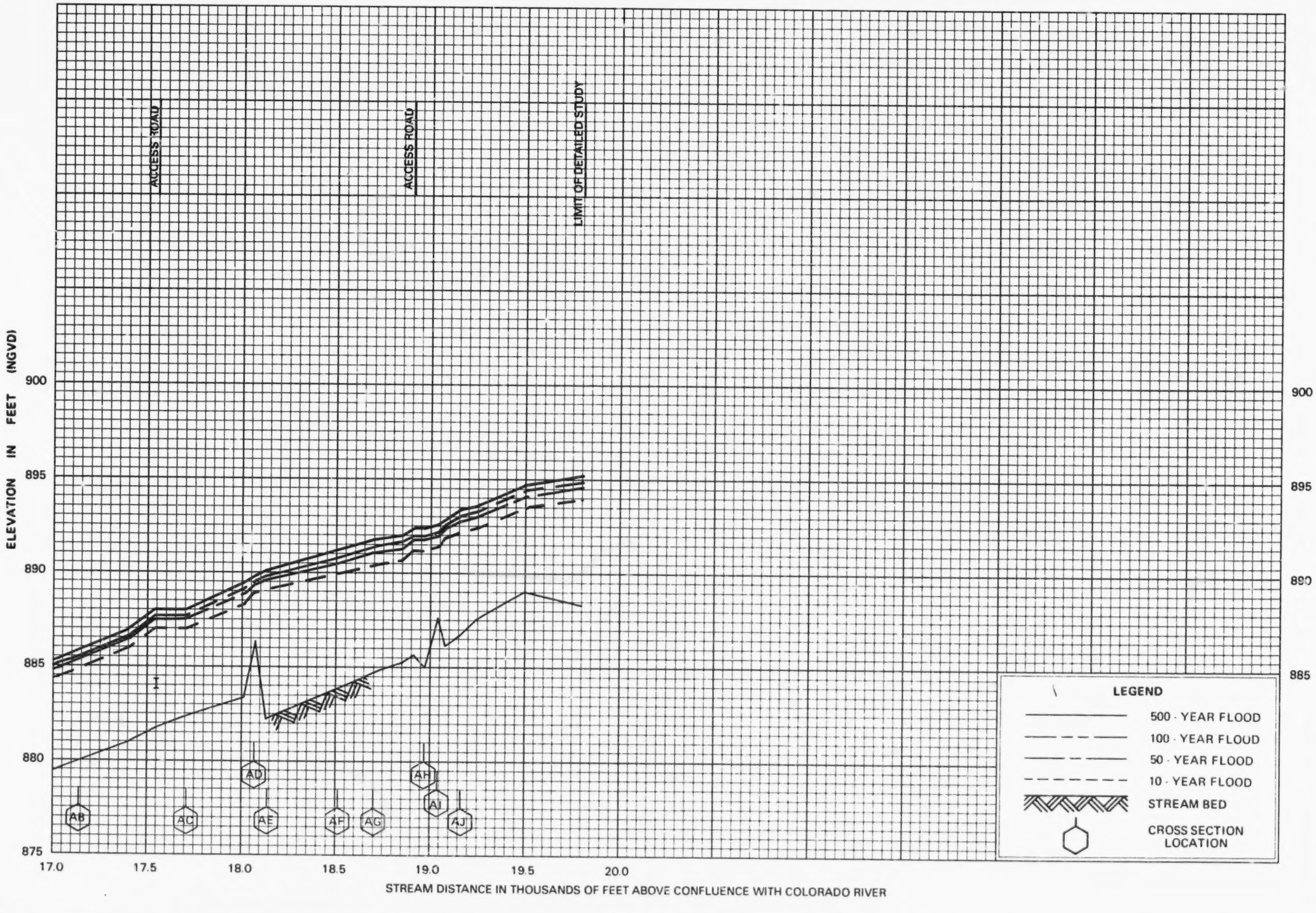
FLOOD PROFILES

ELM CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

36P



FLOOD PROFILES

ELM CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

37P

E6

FLOOD PROFILES

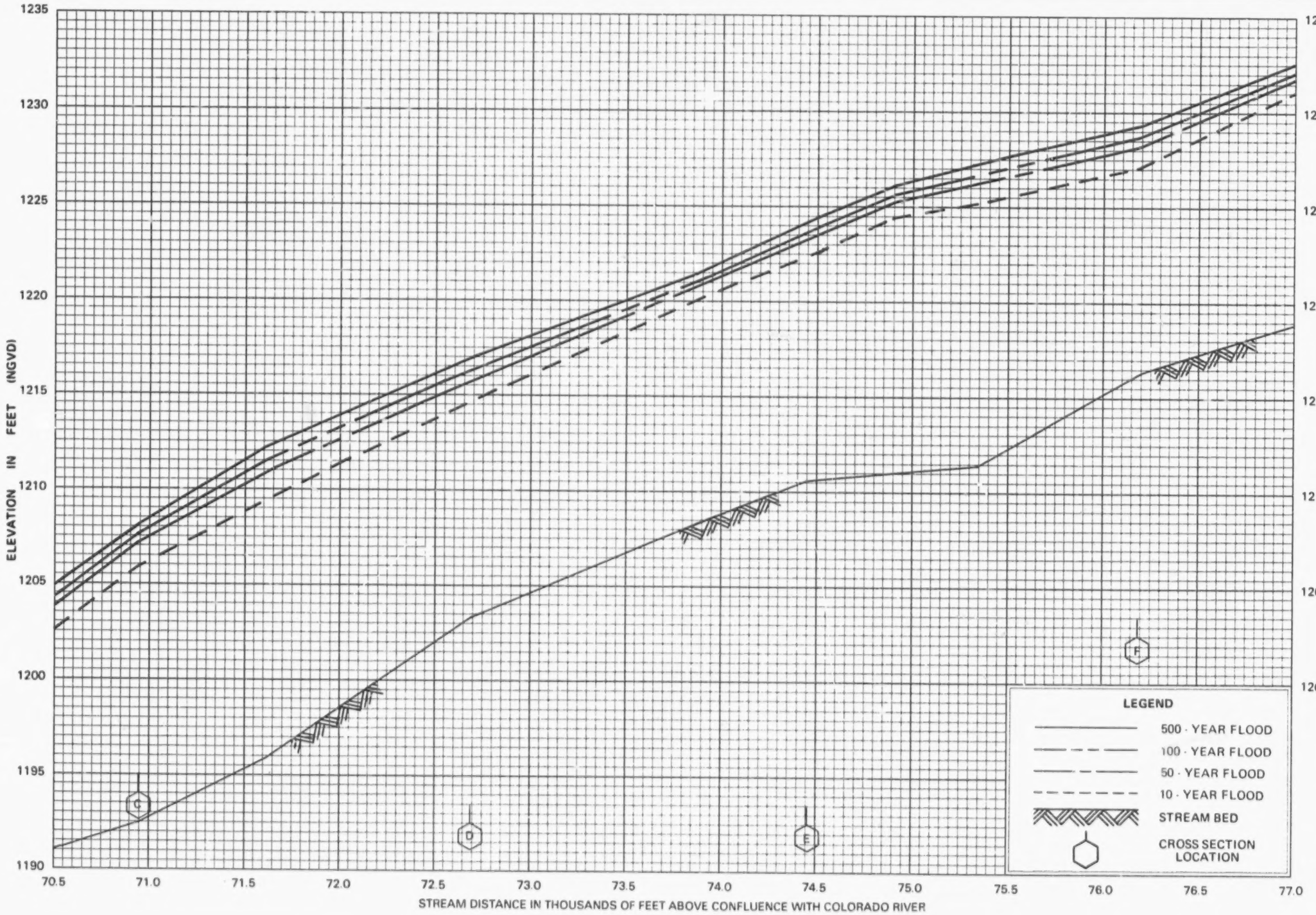
HAMILTON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

38P

87



FLOOD PROFILES

HAMILTON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

39P

SE

FLOOD PROFILES

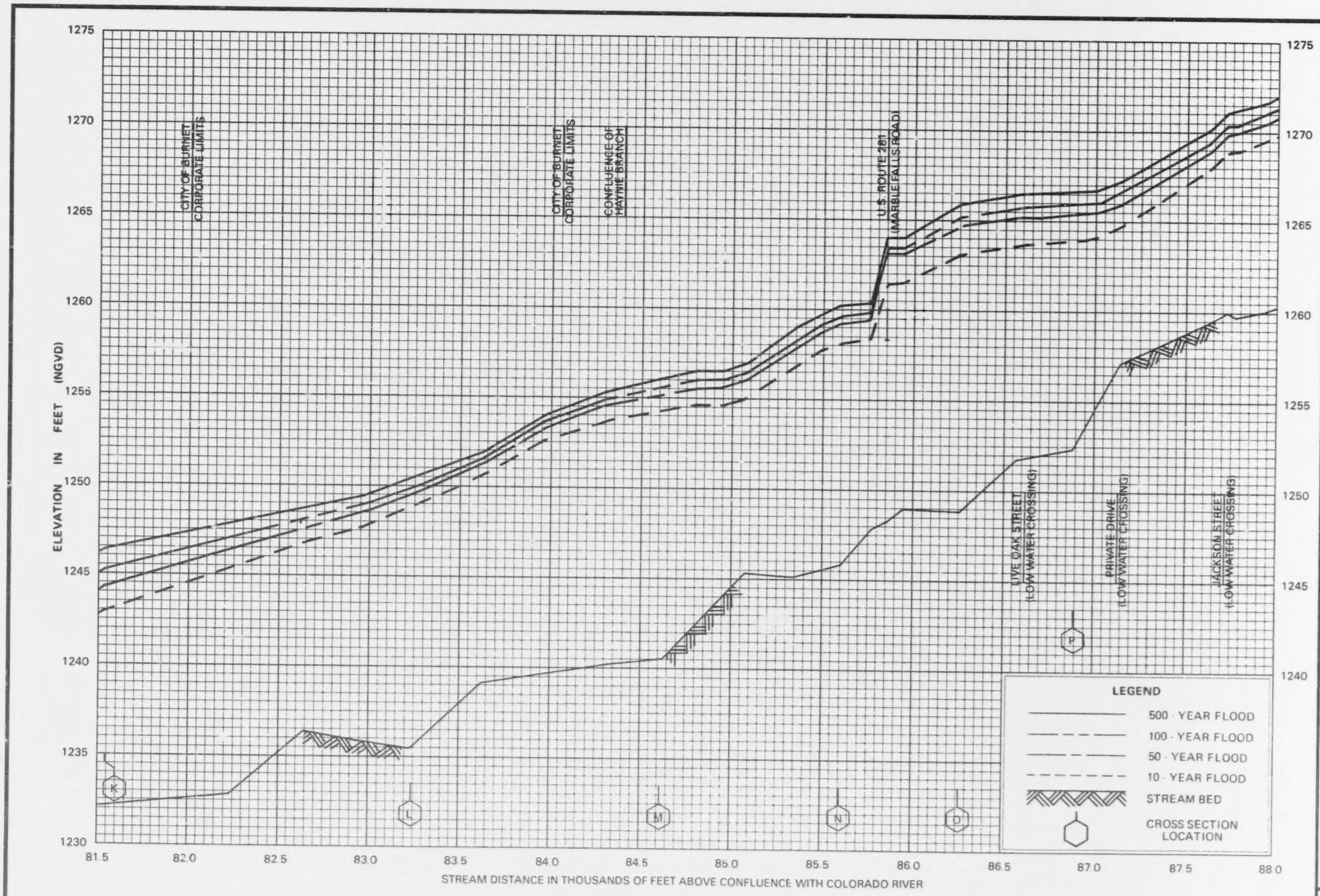
HAMILTON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

40P

EG



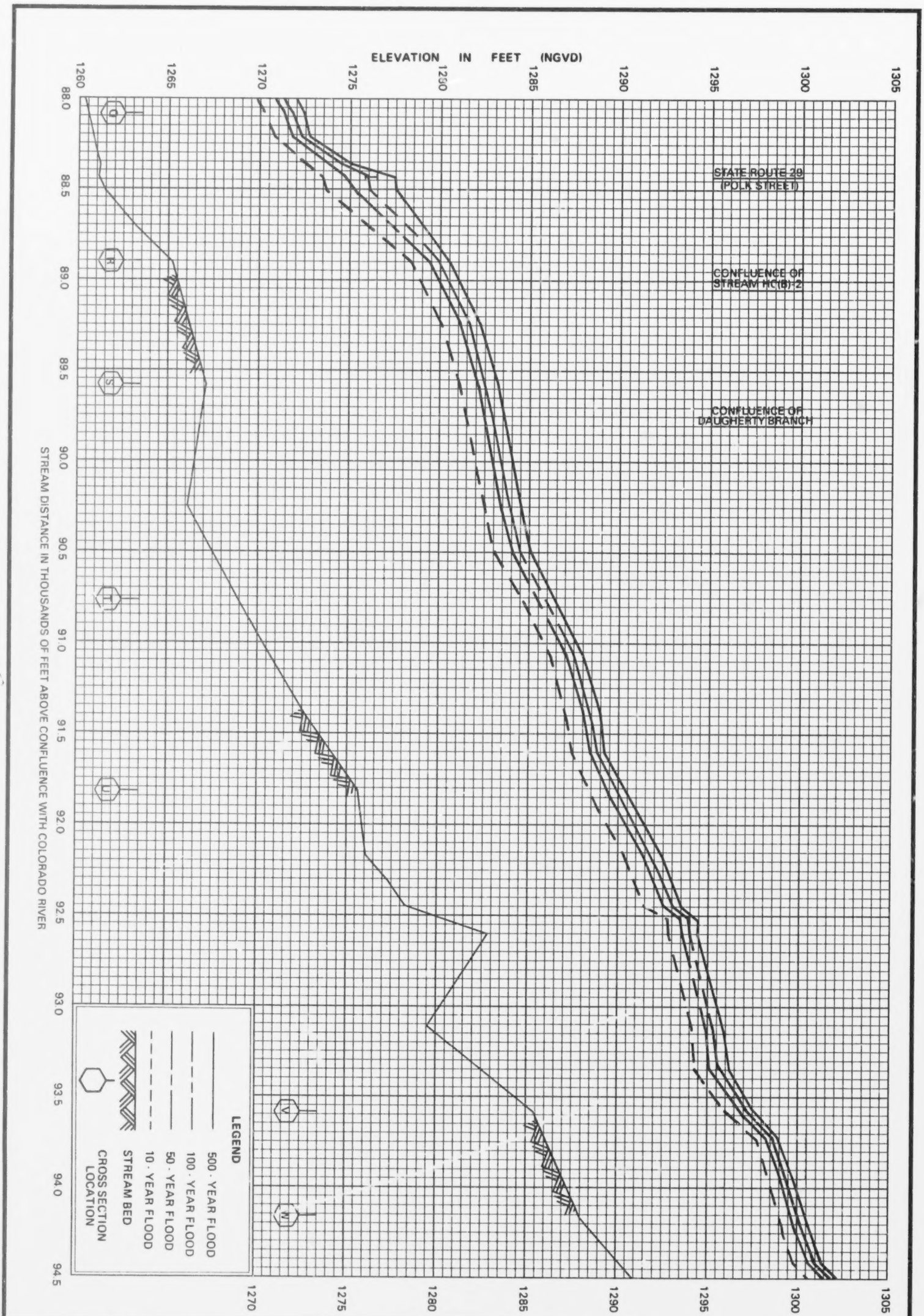
FLOOD PROFILES

HAMILTON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

41P



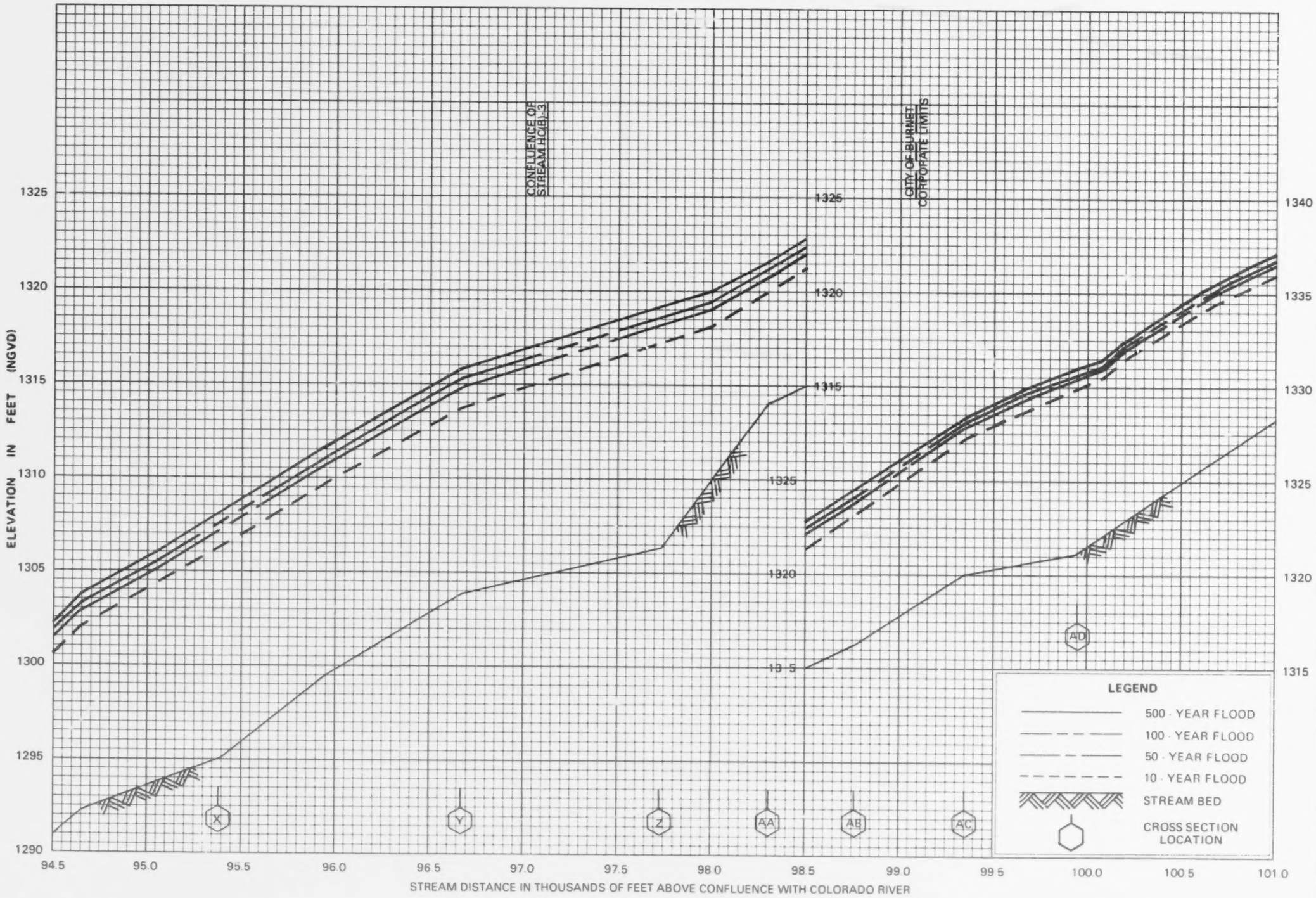
42P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

HAMILTON CREEK



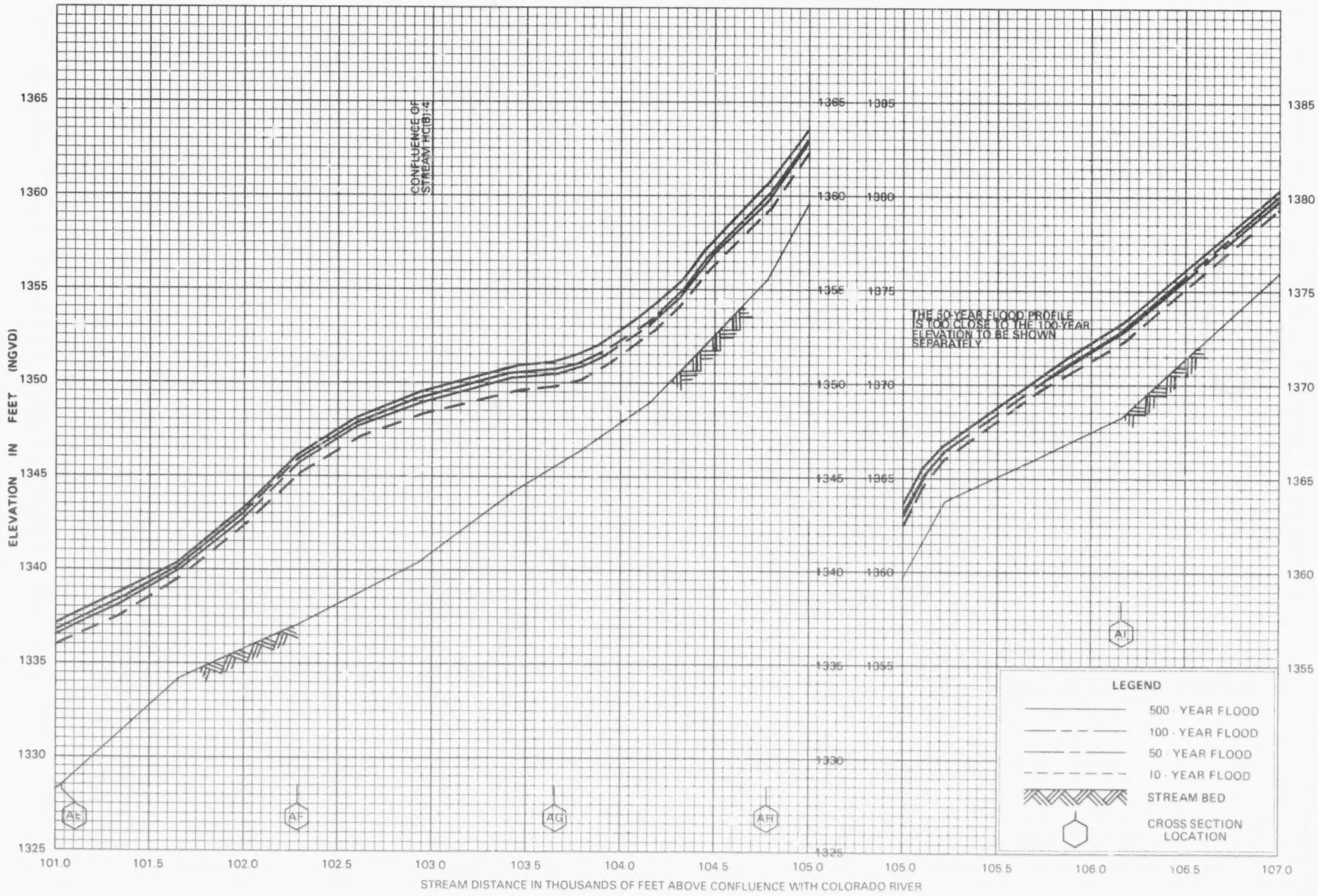
FLOOD PROFILES

HAMILTON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

43P



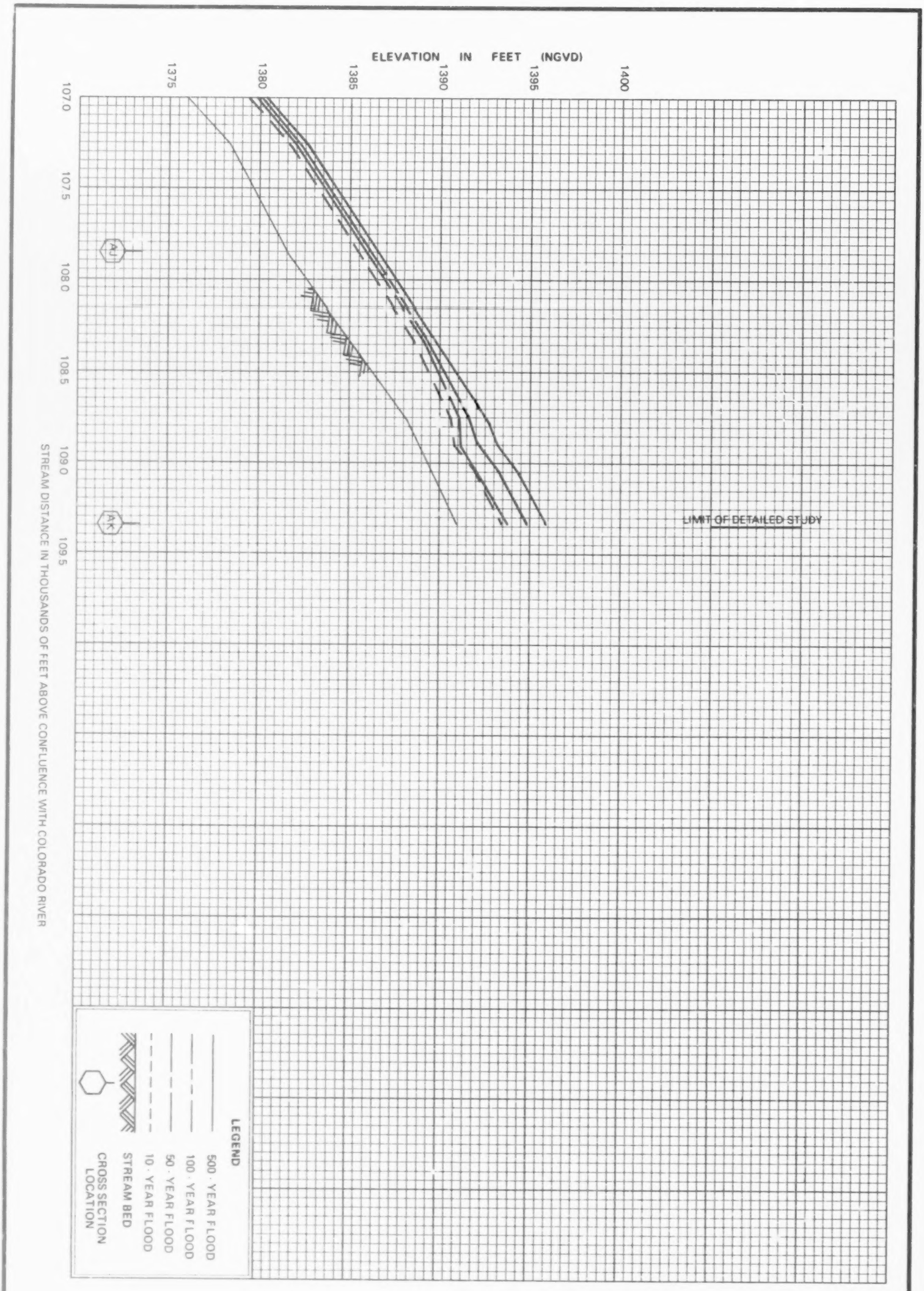
FLOOD PROFILES

HAMILTON CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

44P



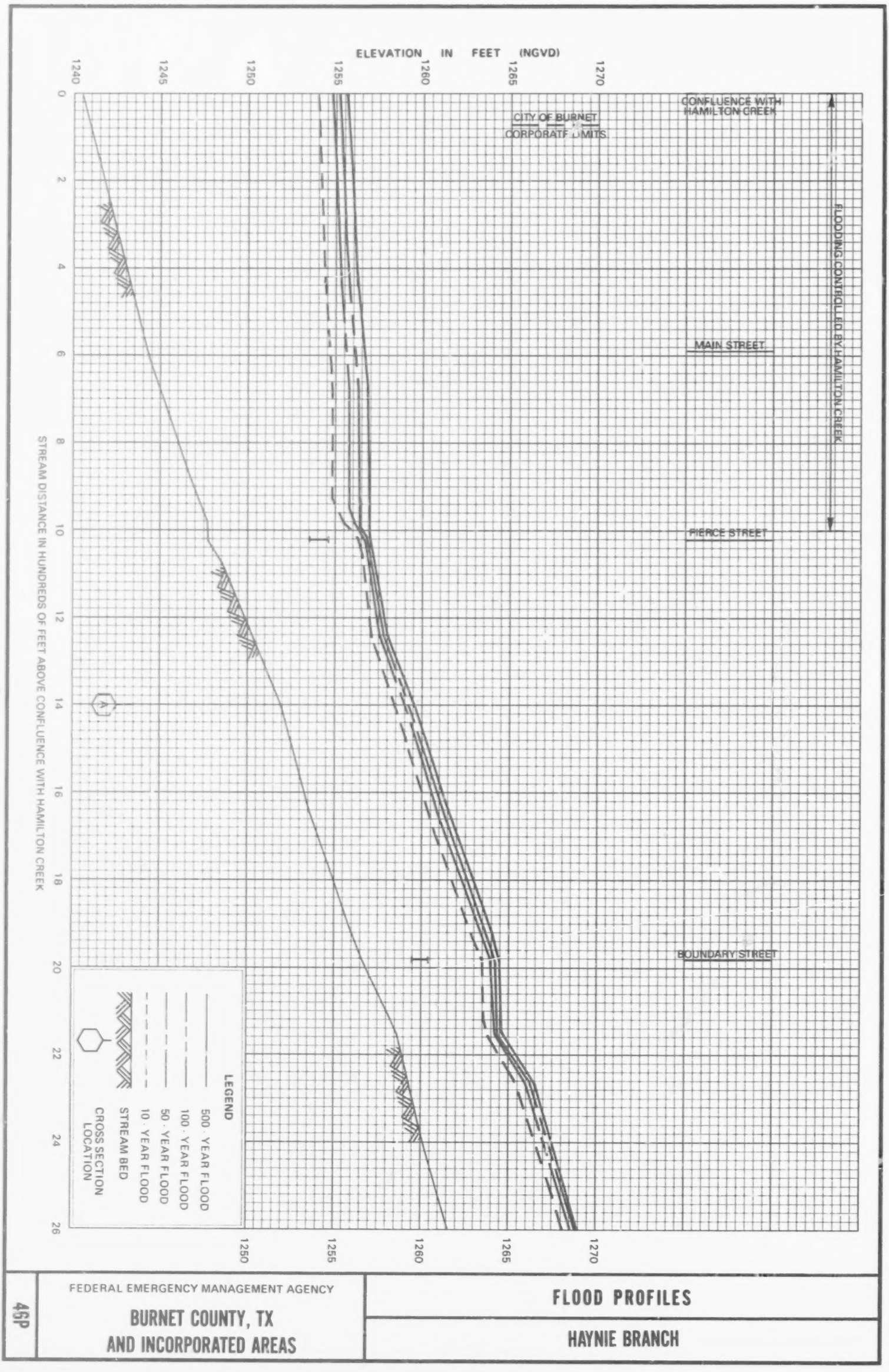
45P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

HAMILTON CREEK



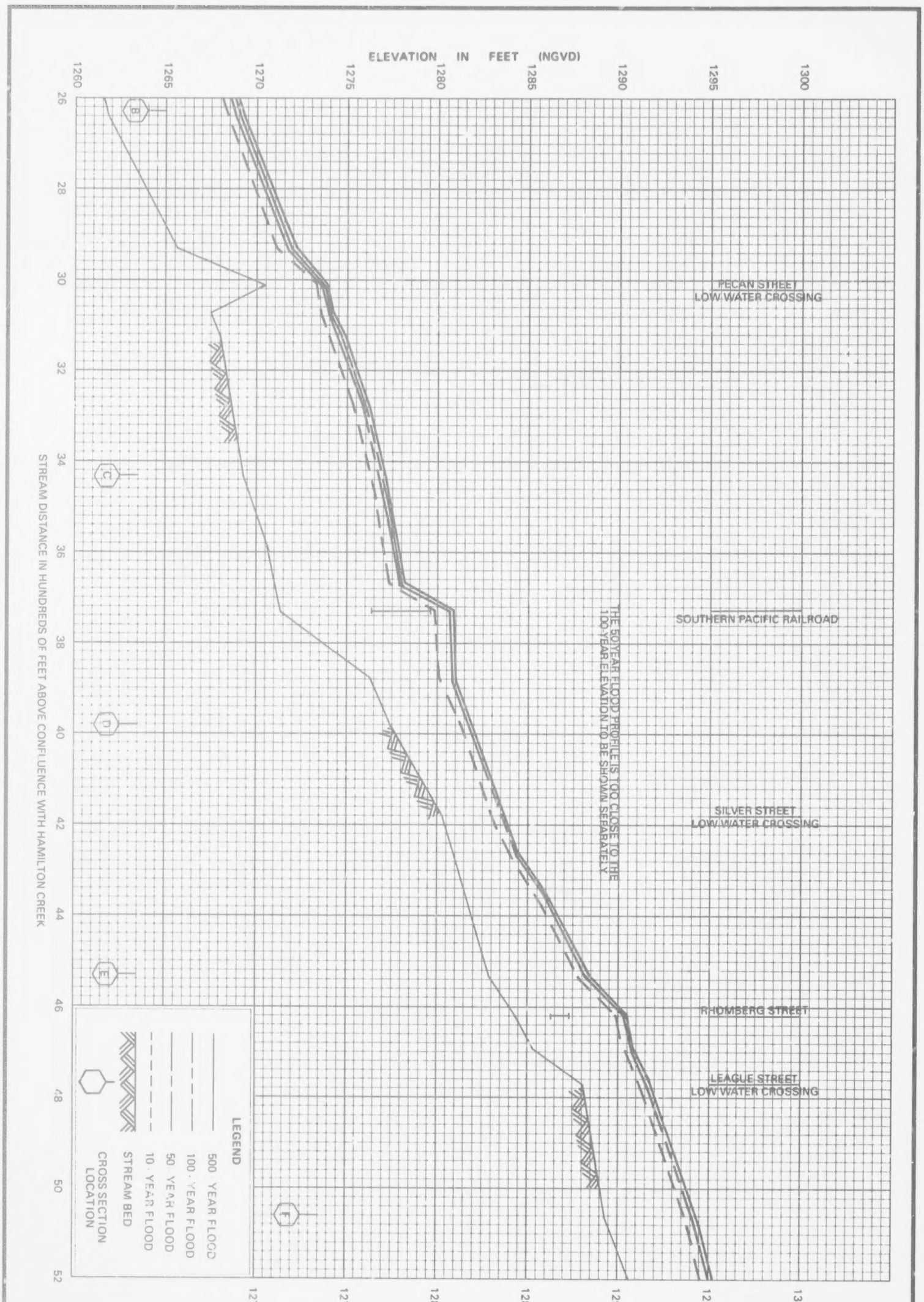
46P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

HAYNIE BRANCH



47P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOOD PROFILES

HAYNIE BRANCH

NORTHINGTON STREET
LOW WATER CROSSING

STATE ROUTE 29
(POLK STREET)

HILL STREET

THE 50-YEAR FLOOD PROFILE IS TOO CLOSE TO THE 100-YEAR ELEVATION TO BE SHOWN SEPARATELY

ELEVATION IN FEET (NGVD)

1330
1325
1320
1315
1310
1305
1300
1295
1290

52 54 56 58 60 62 64 66 68 70 72 74 76 78

STREAM DISTANCE IN HUNDREDS OF FEET ABOVE CONFLUENCE WITH HAMILTON CREEK

G H I J

LEGEND

- 500 YEAR FLOOD
- 100 YEAR FLOOD
- 50 YEAR FLOOD
- 10 YEAR FLOOD
- STREAM BED
- CROSS SECTION LOCATION

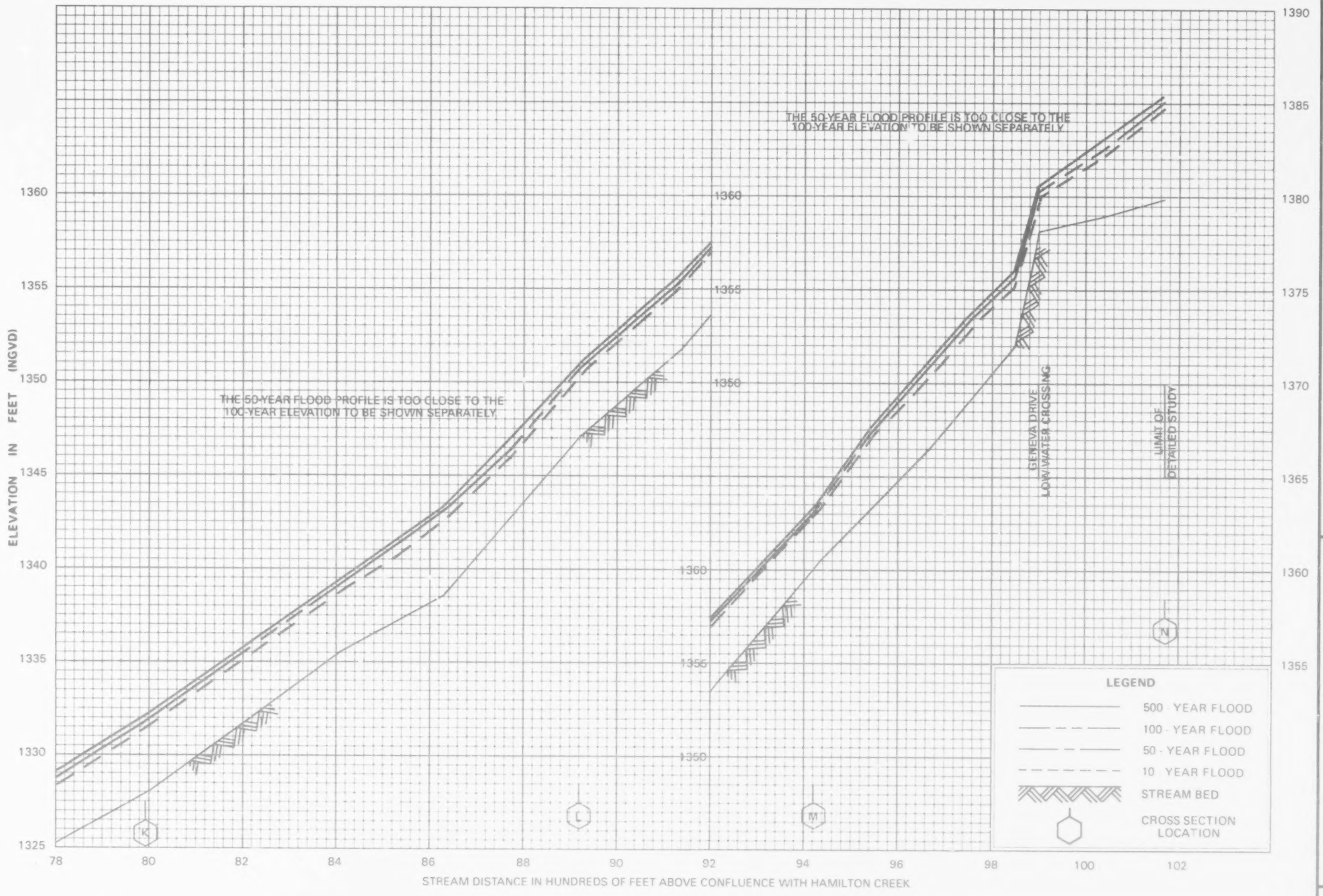
FLOOD PROFILES

HAYNIE BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

48P



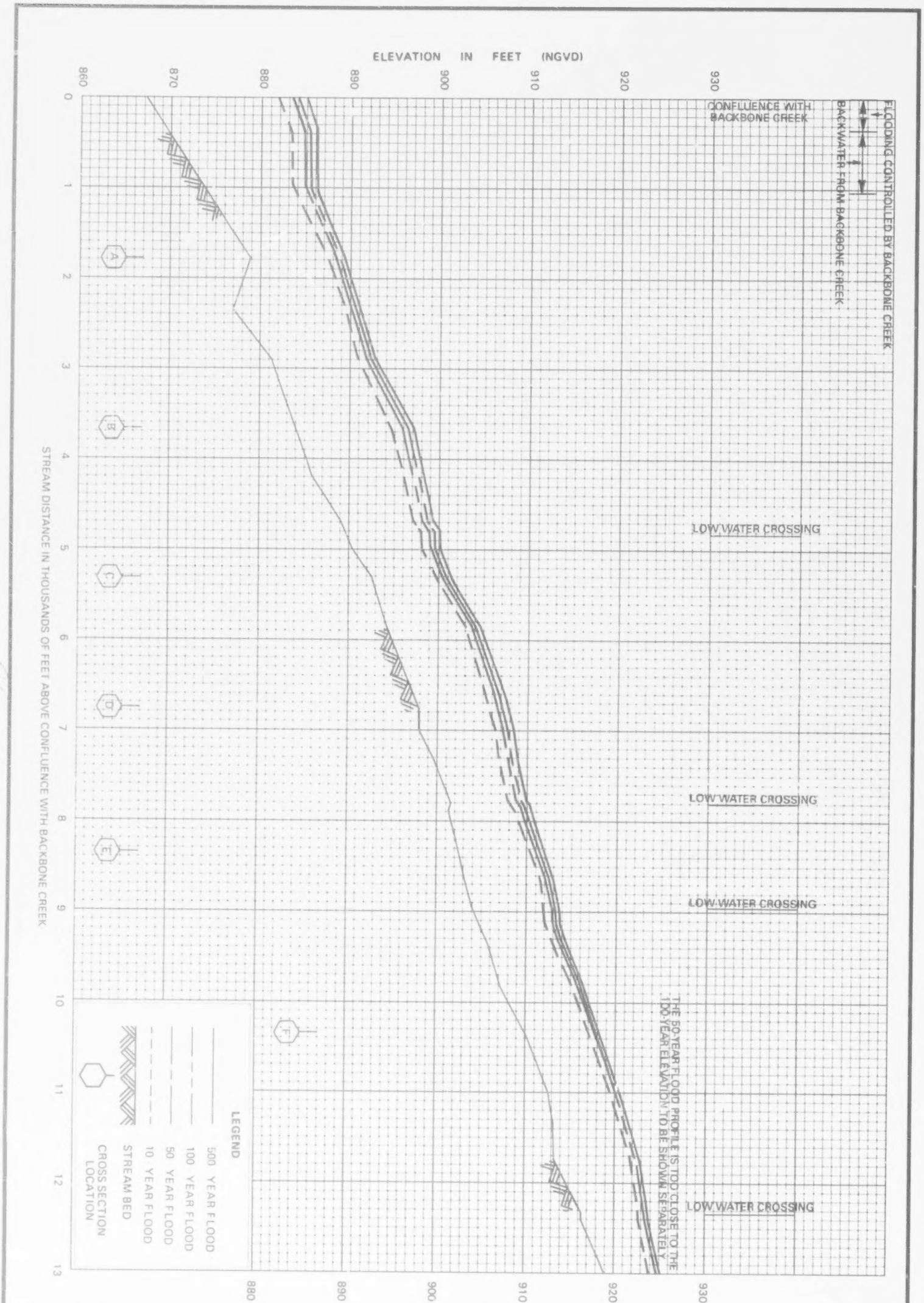
FLOOD PROFILES

HAYNIE BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

49P



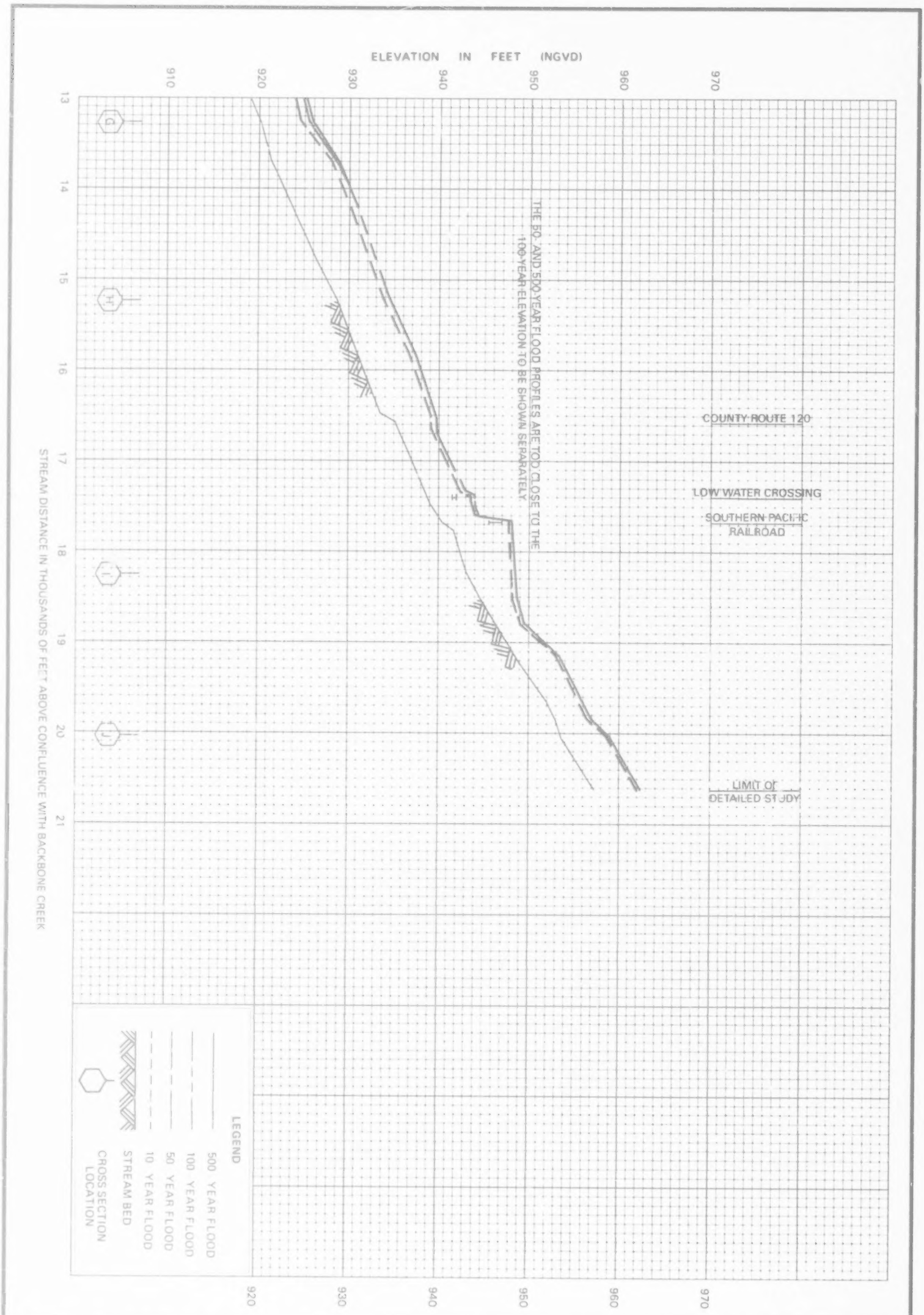
50P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

SPARERIB CREEK



51P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

SPARERIB CREEK

52P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

STREAM BC-1

BACKWATER FROM COLORADO RIVER (LAKE MARBLE FALLS)

766
764
762
760
758
756
754
752
750

ELEVATION IN FEET (NGVD)

13 14 15 16 17 18 19 20 21 22 23 24

STREAM DISTANCE IN HUNDREDS OF FEET ABOVE CONFLUENCE WITH BACKBONE CREEK

B

LEGEND

- 500 - YEAR FLOOD*
- 100 - YEAR FLOOD
- 50 - YEAR FLOOD
- 10 - YEAR FLOOD
- STREAM BED
- CROSS SECTION LOCATION

* NOTE - 500 YEAR ELEVATION - 771.2

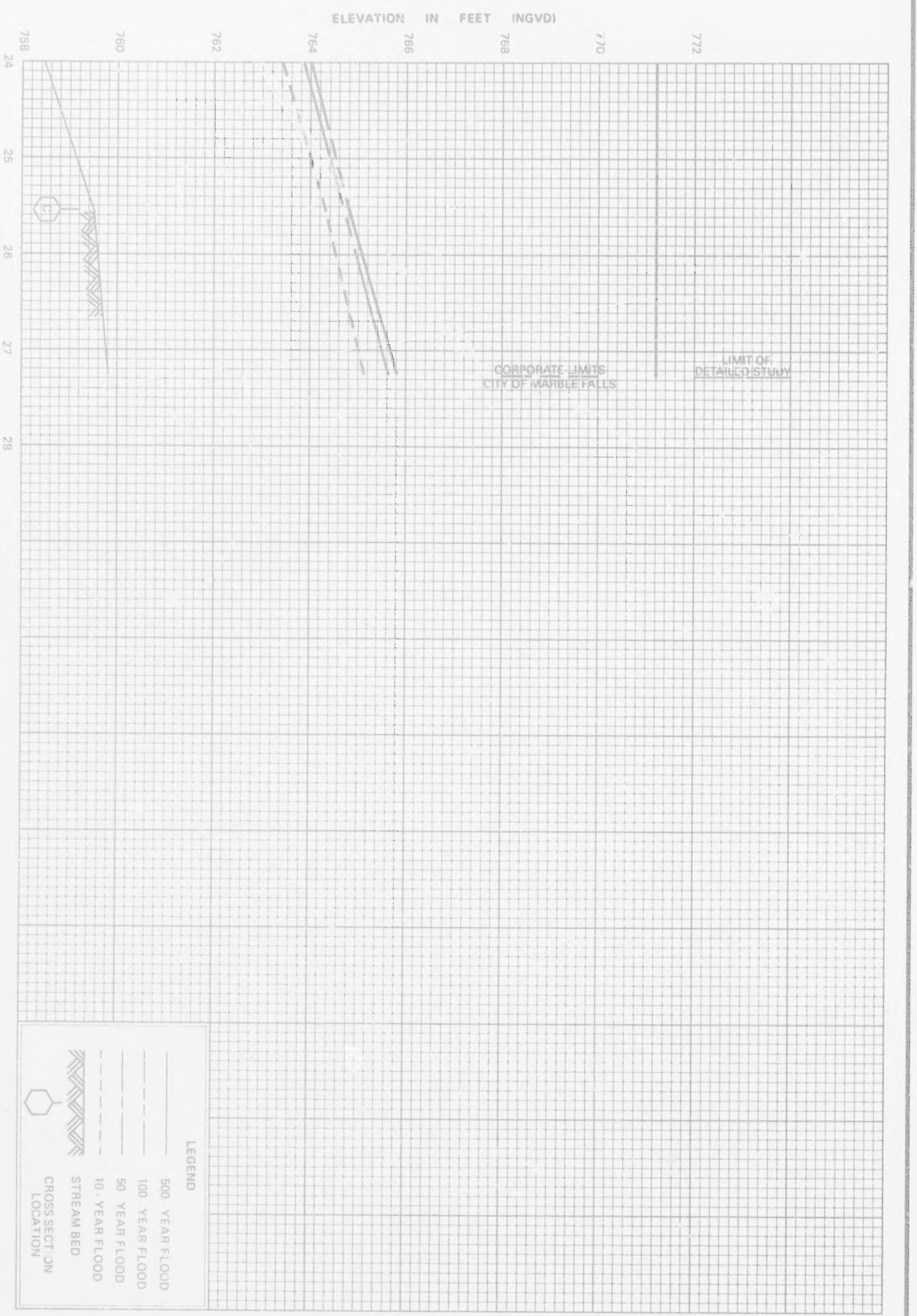
FLOOD PROFILES

STREAM BC-1

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

53P



FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

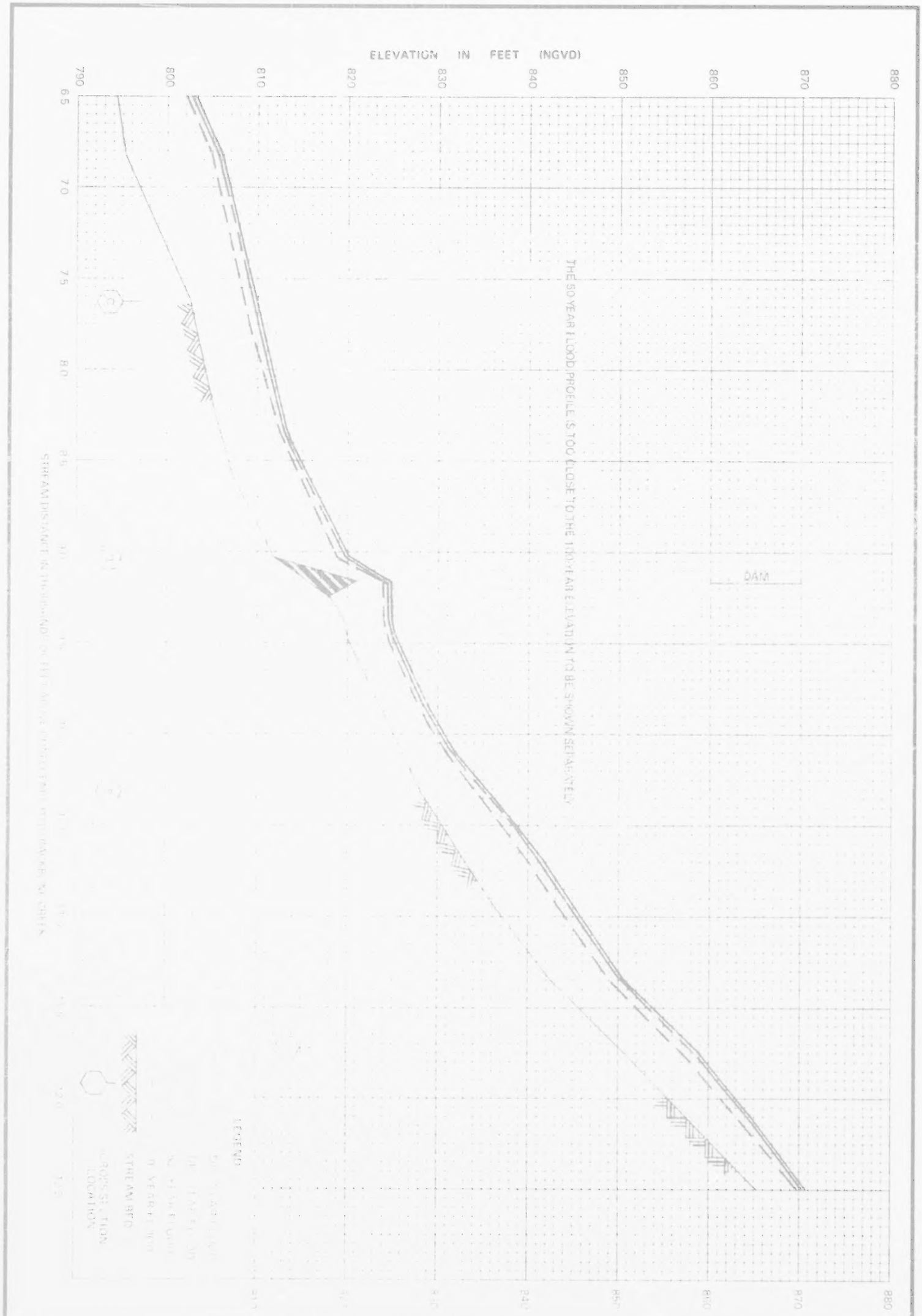
STREAM BC-1

FLOOD PROFILES

STREAM BC-2

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

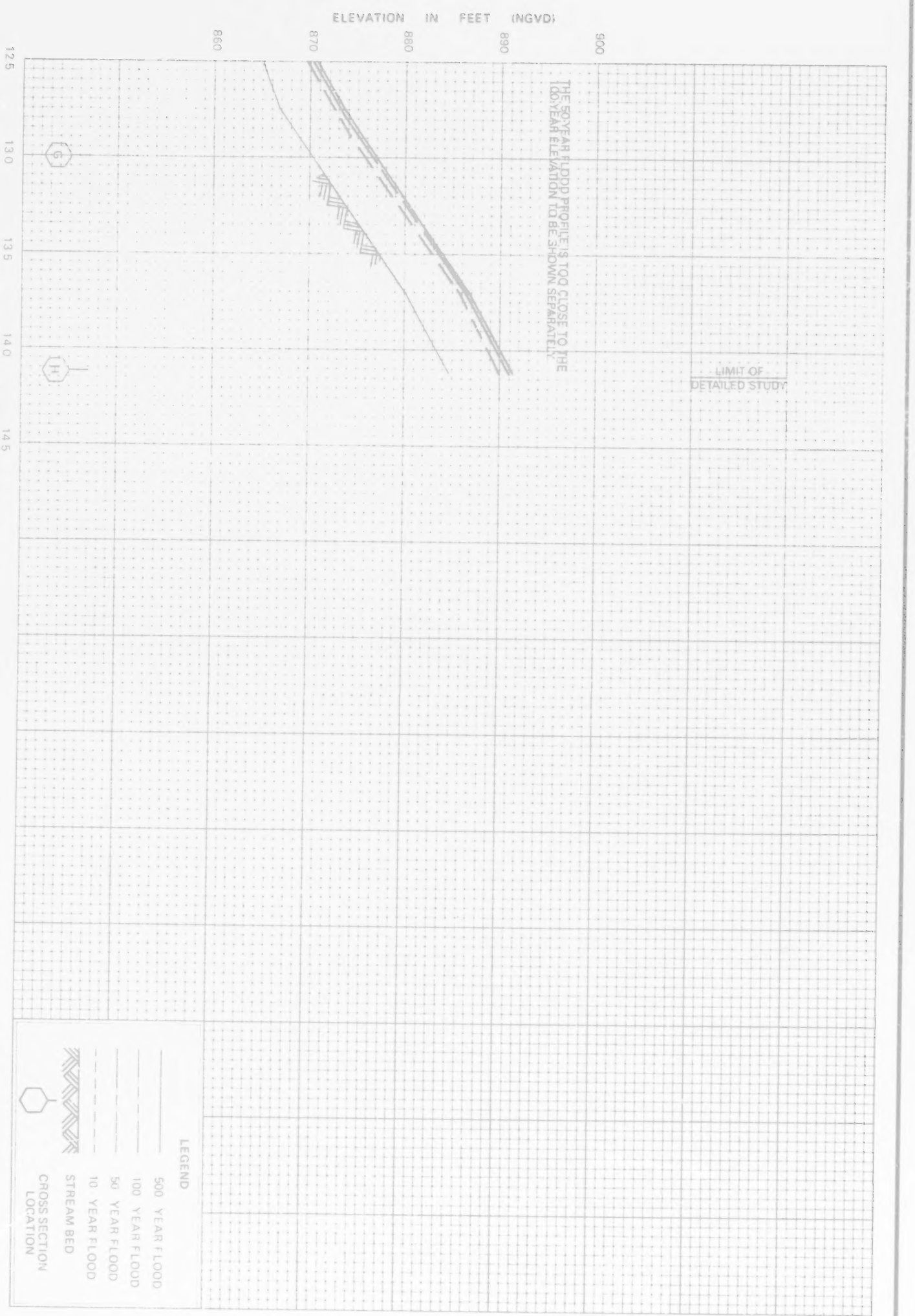


FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

STREAM BC-2


ELEVATION IN FEET (NGVD)
860
870
880
890
900
125
130
135
140
145
STREAM DISTANCE IN THOUSANDS OF FEET ABOVE CONFLUENCE WITH BACKBONE CREEK
G
H
THE 50-YEAR FLOOD PROFILE IS TOO CLOSE TO THE 100-YEAR ELEVATION TO BE SHOWN SEPARATELY.
LIMIT OF DETAILED STUDY
LEGEND
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
STREAM BED
CROSS SECTION LOCATION

FLOODING CONTROLLED BY BACKBONE CREEK

CONFLUENCE WITH BACKBONE CREEK

ELEVATION IN FEET (NGVD)

935
930
925
920
915
910
905
900
895

0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5

STREAM DISTANCE IN THOUSANDS OF FEET ABOVE CONFLUENCE WITH BACKBONE CREEK

A

B

LEGEND

- 500 - YEAR FLOOD
- 100 - YEAR FLOOD
- 50 - YEAR FLOOD
- 10 - YEAR FLOOD
- STREAM BED
- CROSS SECTION LOCATION

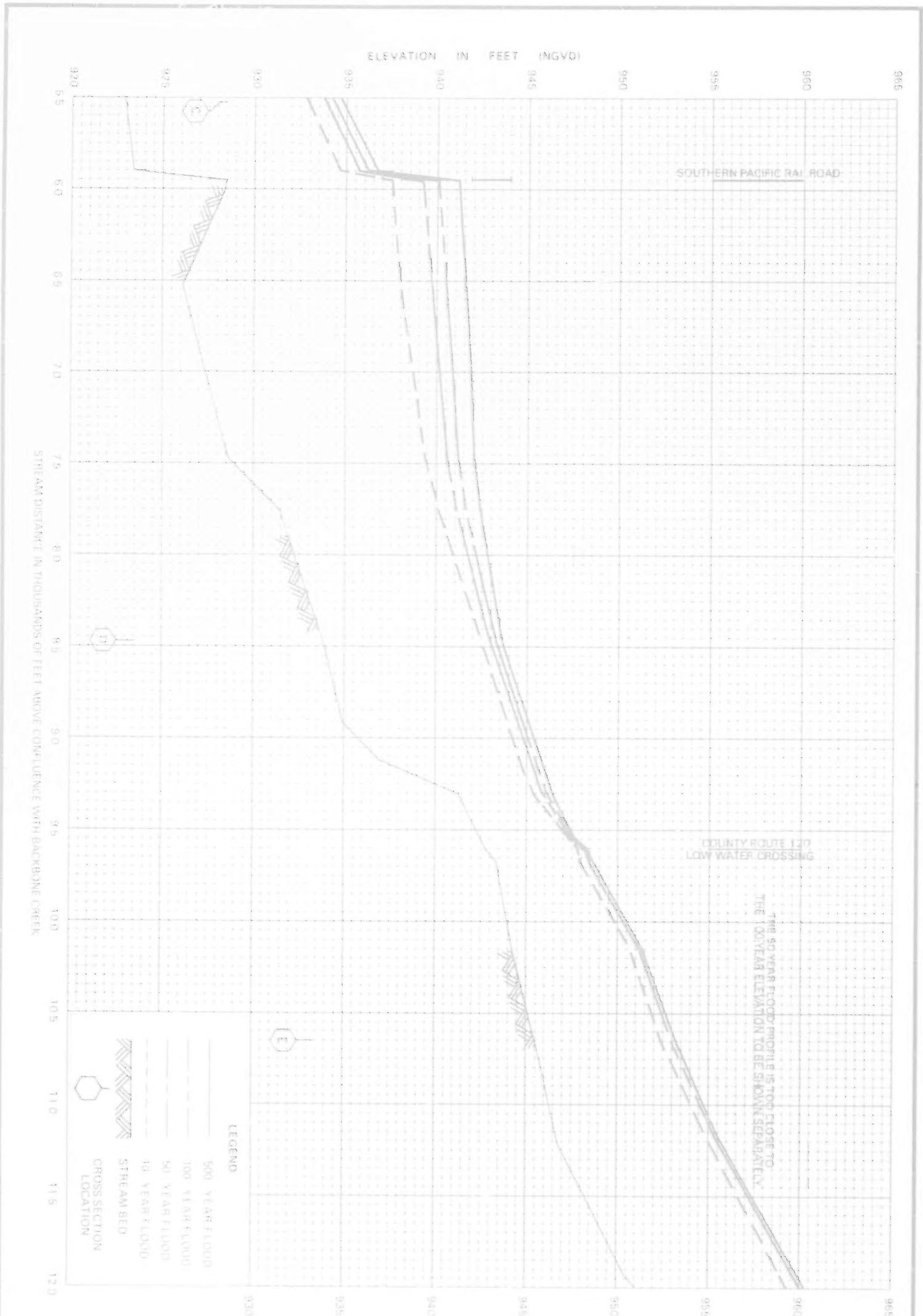
FLOOD PROFILES

STREAM BC-3

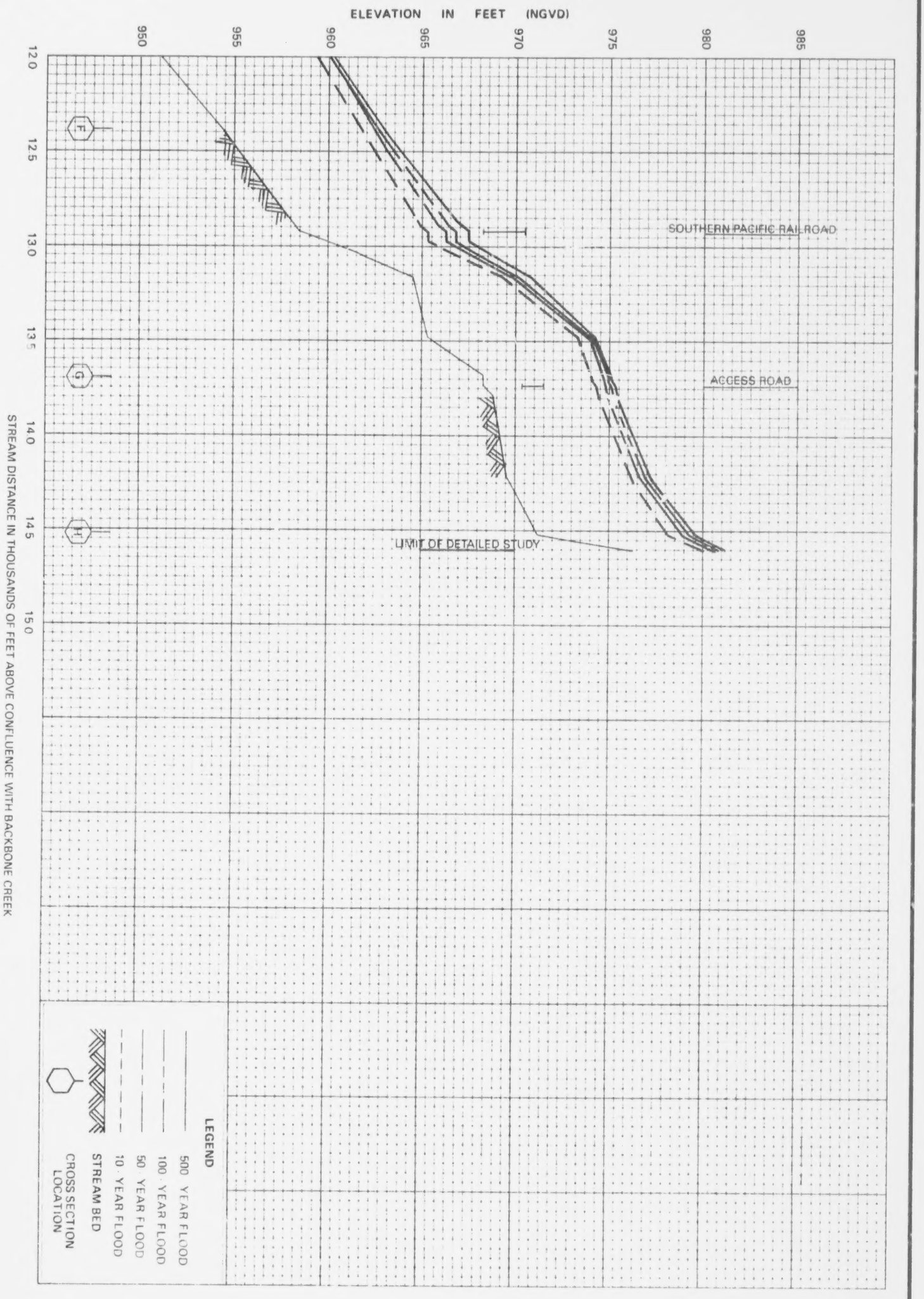
FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

58P



59P	FEDERAL EMERGENCY MANAGEMENT AGENCY BURNET COUNTY, TX AND INCORPORATED AREAS	FLOOD PROFILES STREAM BC-3



60P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOOD PROFILES

STREAM BC-3

FLOOD PROFILES

STREAM DC-1

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

61P

FLOOD PROFILES

STREAM DC-1

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOODING CONTROLLED BY DRY CREEK

CONFLUENCE WITH DRY CREEK

PESEO DE VACA LOW-WATER CROSSING

ANCIENT OAKS DRIVE LOW-WATER CROSSING

ELEVATION IN FEET (NGVD)

930
925
920
915
910
905
900
895
390

0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5

STREAM DISTANCE IN THOUSANDS OF FEET ABOVE CONFLUENCE WITH DRY CREEK

A B C D

LEGEND

- 500 YEAR FLOOD
- 100 YEAR FLOOD
- 50 YEAR FLOOD
- 10 YEAR FLOOD
- STREAM BED
- CROSS SECTION LOCATION

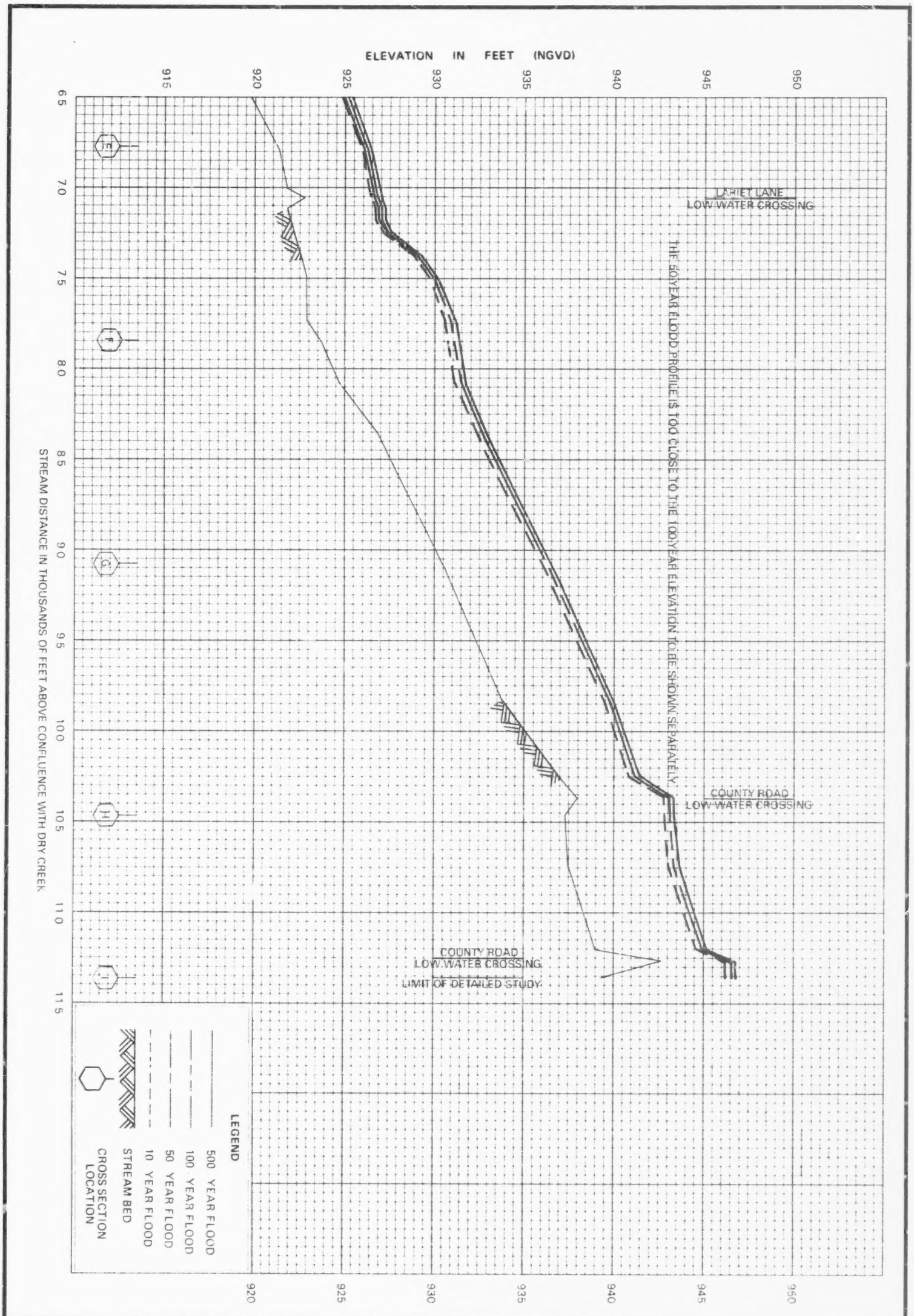
FLOOD PROFILES

STREAM DC-2

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

63P



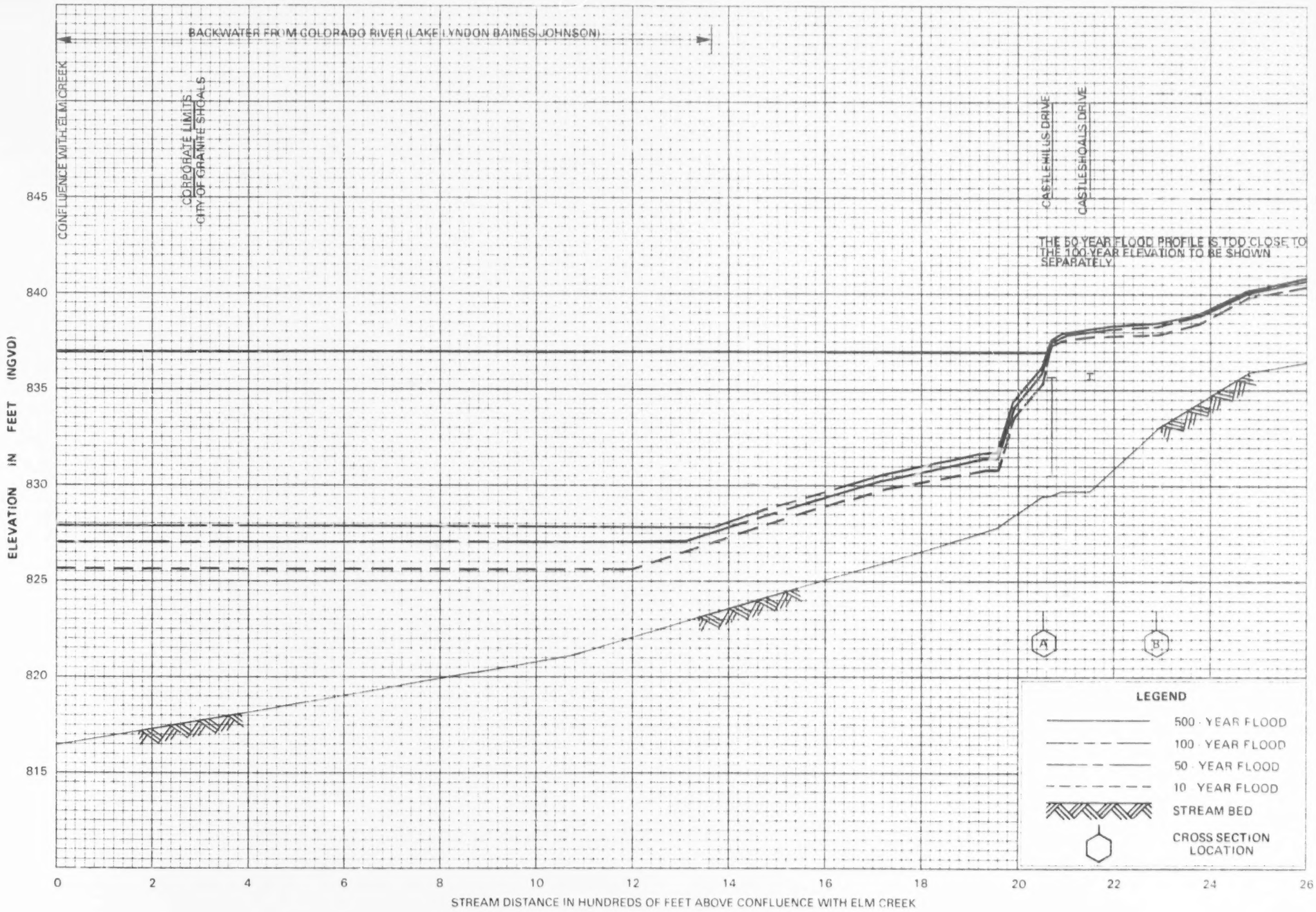
64P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOOD PROFILES

STREAM DC-2



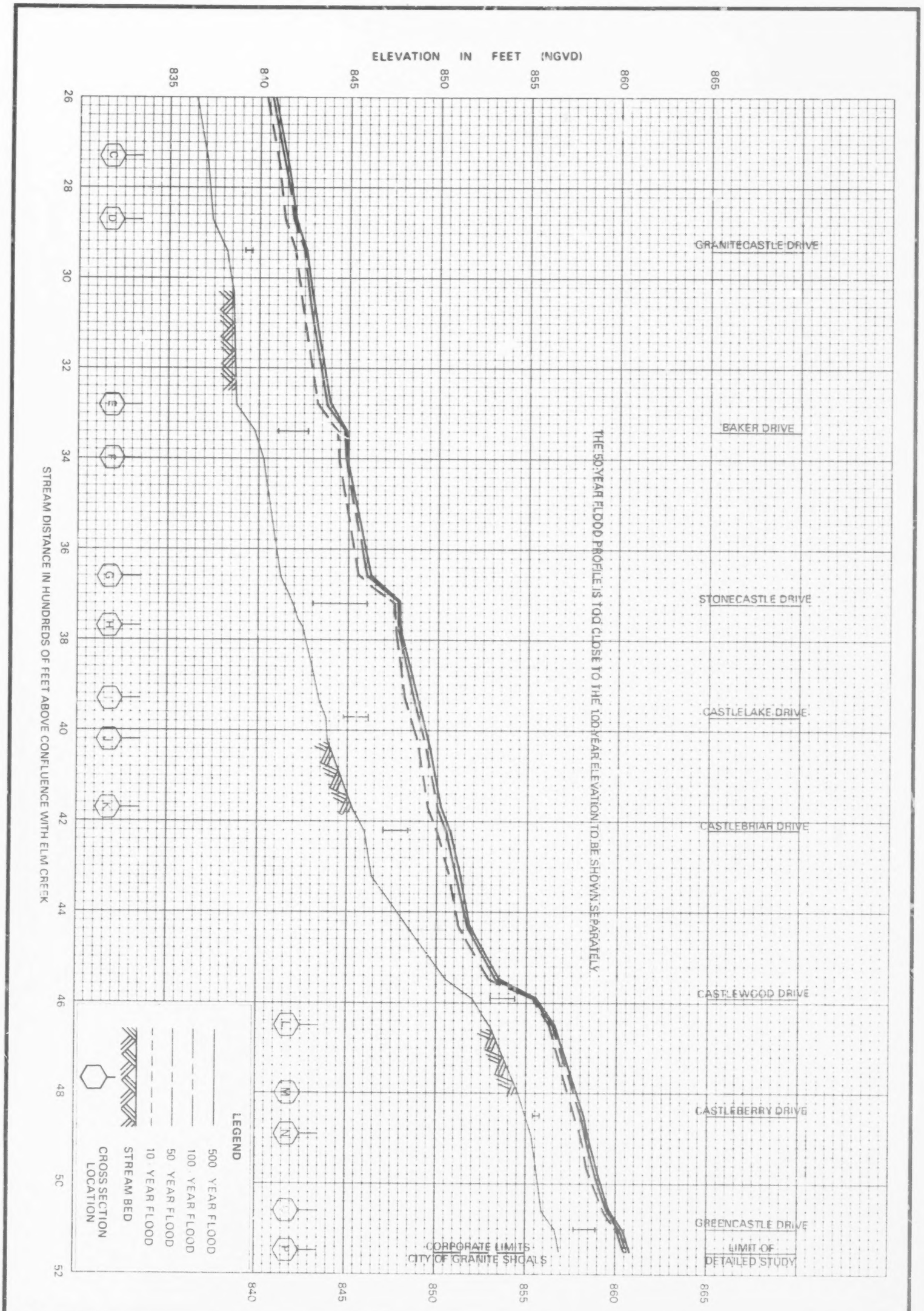
FLOOD PROFILES

STREAM EC-1

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

65P

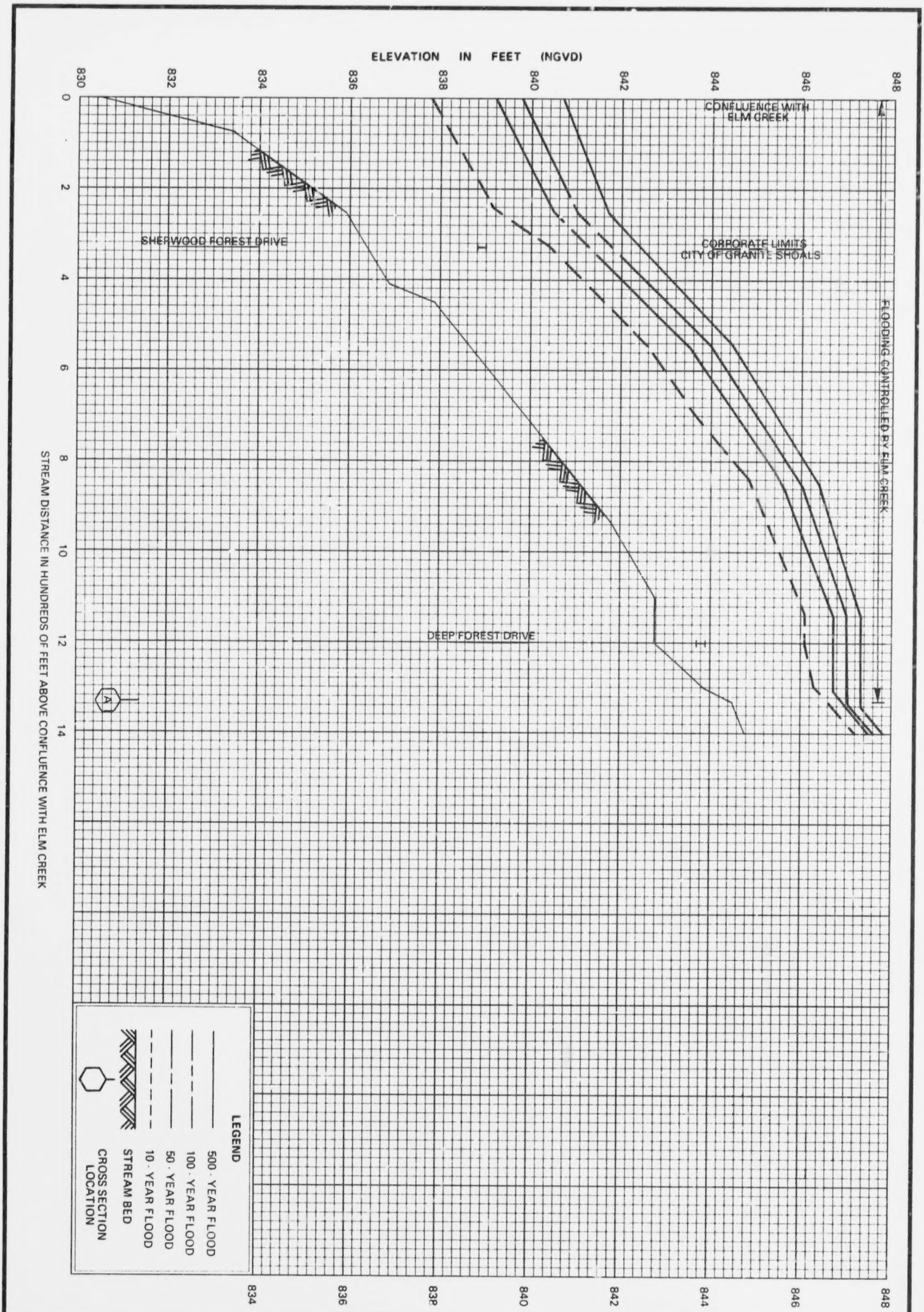


FEDERAL EMERGENCY MANAGEMENT AGENCY

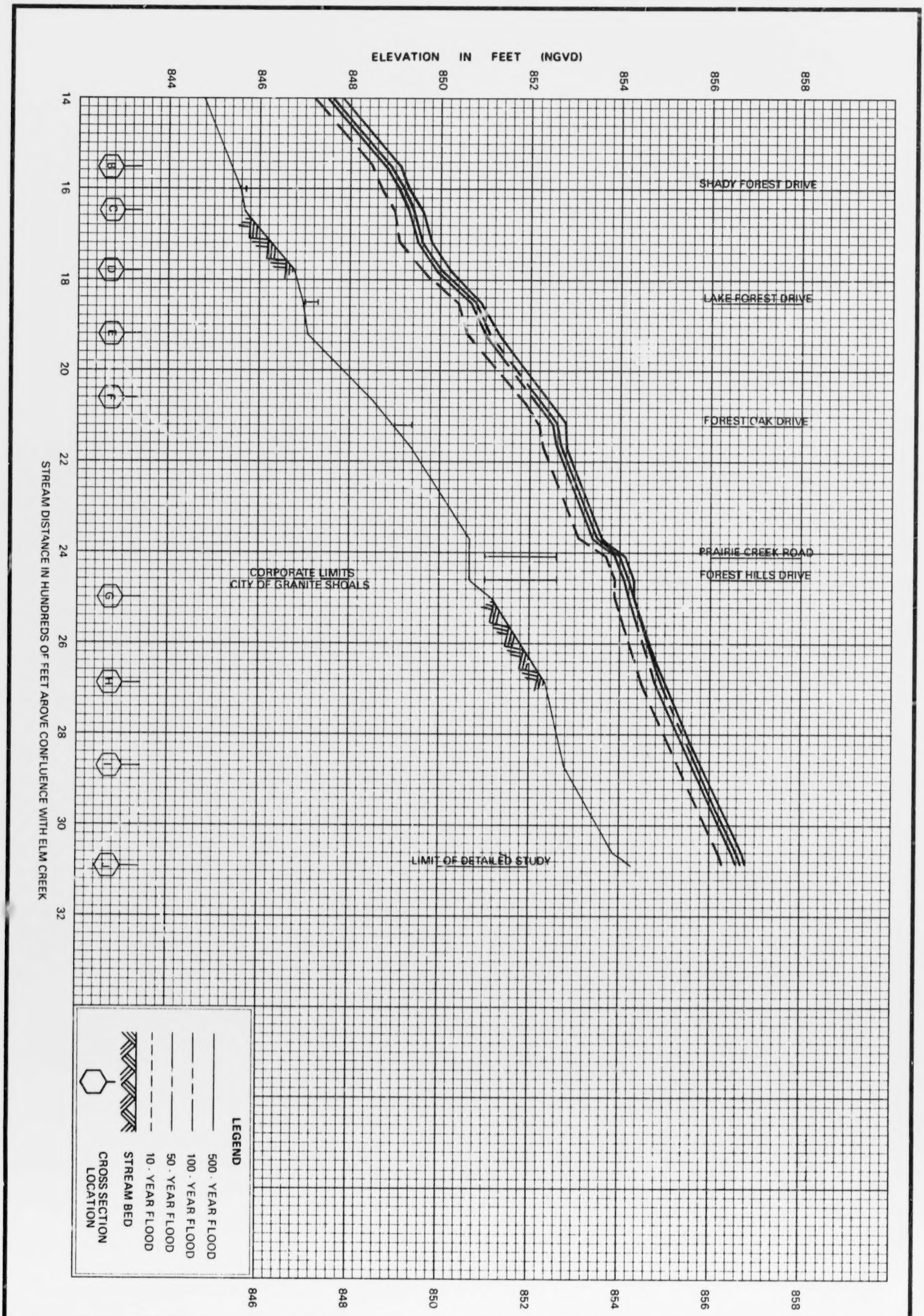
BURNET COUNTY, TX AND INCORPORATED AREAS

FLOOD PROFILES

STREAM EC-1



67P	FEDERAL EMERGENCY MANAGEMENT AGENCY **BURNET COUNTY, TX AND INCORPORATED AREAS**	**FLOOD PROFILES** **STREAM EC-2**



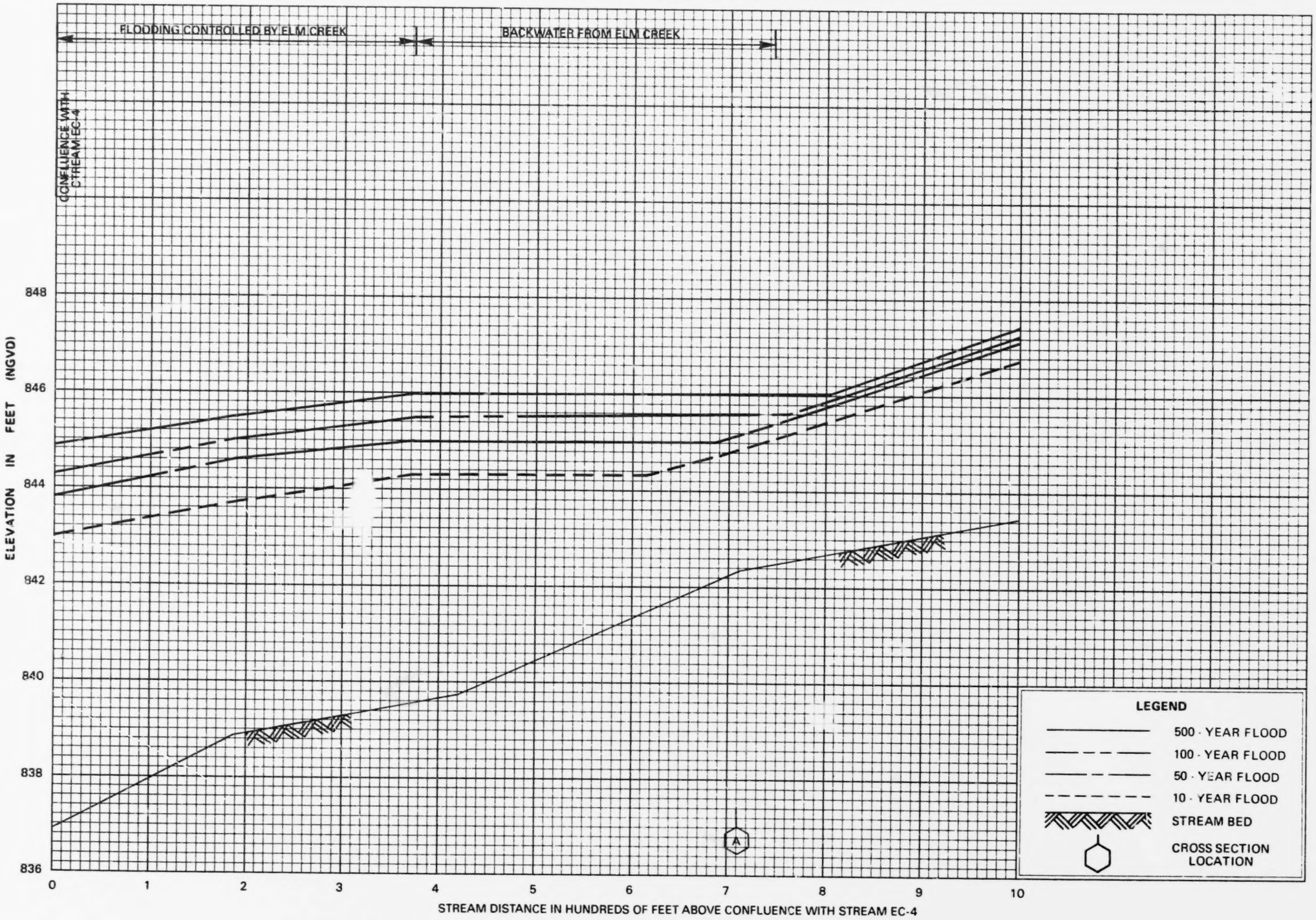
68P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOOD PROFILES

STREAM EC-2



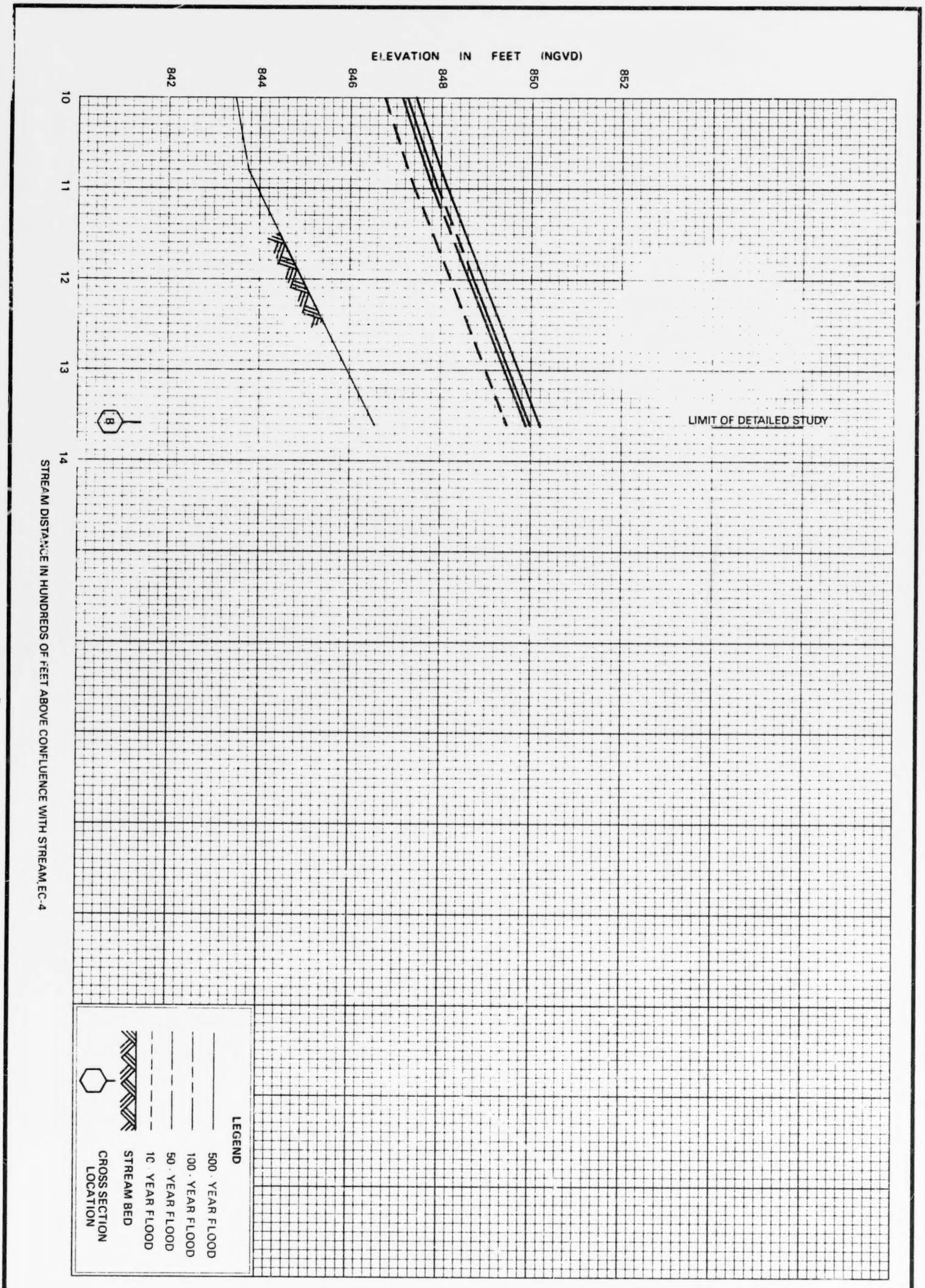
FLOOD PROFILES

STREAM EC-3

FEDERAL EMERGENCY MANAGEMENT AGENCY

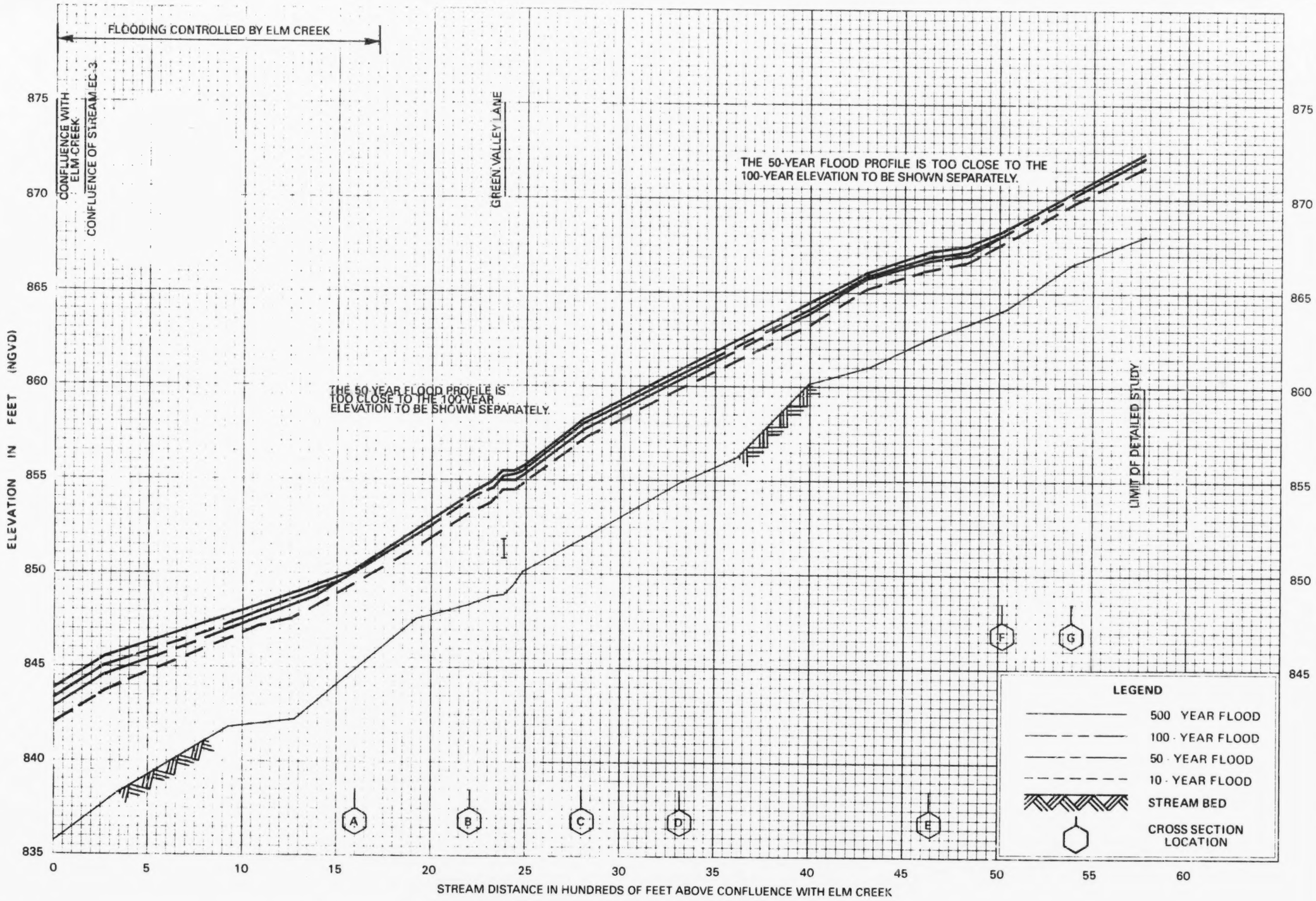
BURNET COUNTY, TX
AND INCORPORATED AREAS

69P



119

70P	FEDERAL EMERGENCY MANAGEMENT AGENCY BURNET COUNTY, TX AND INCORPORATED AREAS	FLOOD PROFILES STREAM EC-3



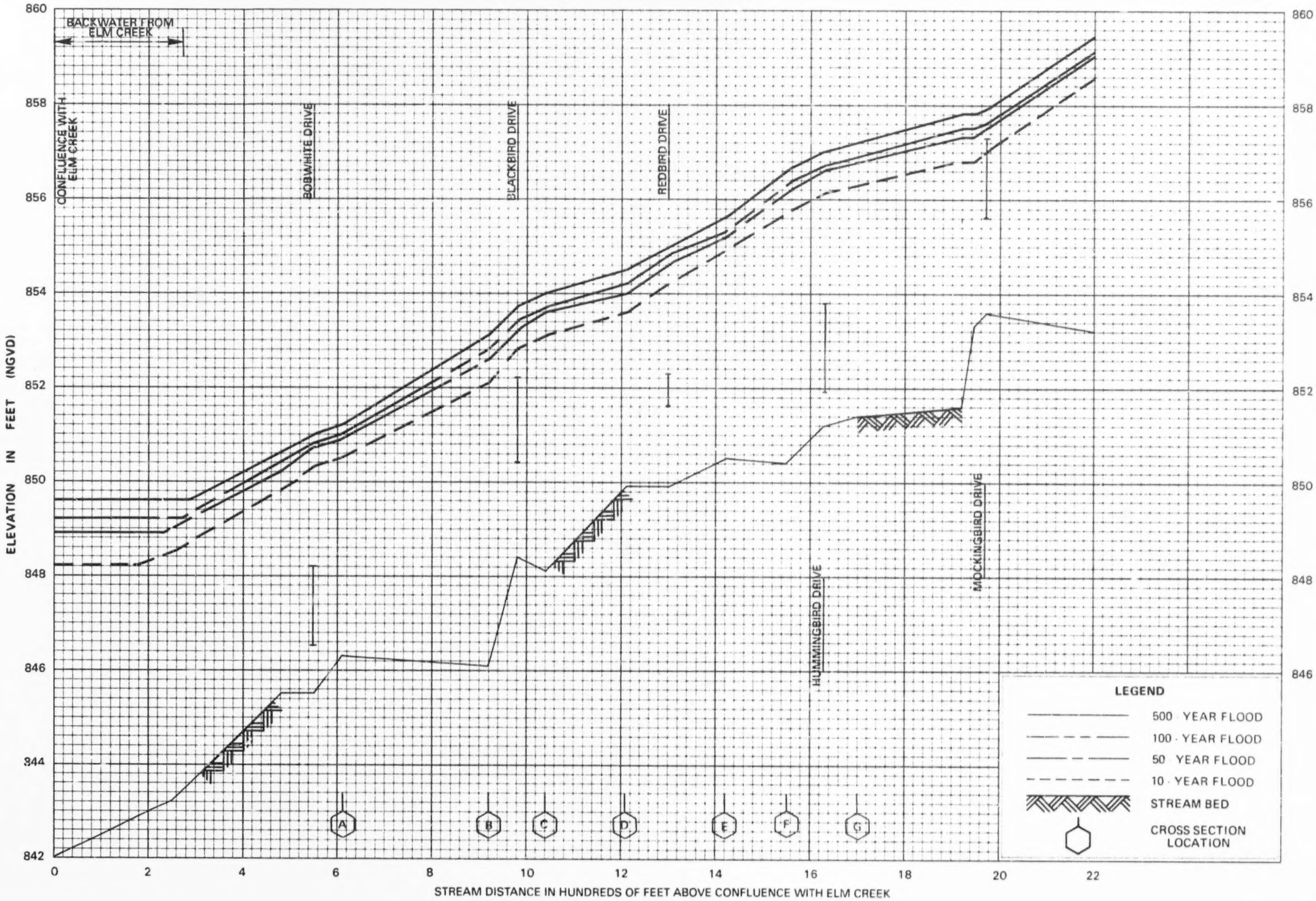
FLOOD PROFILES

STREAM EC-4

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

71P



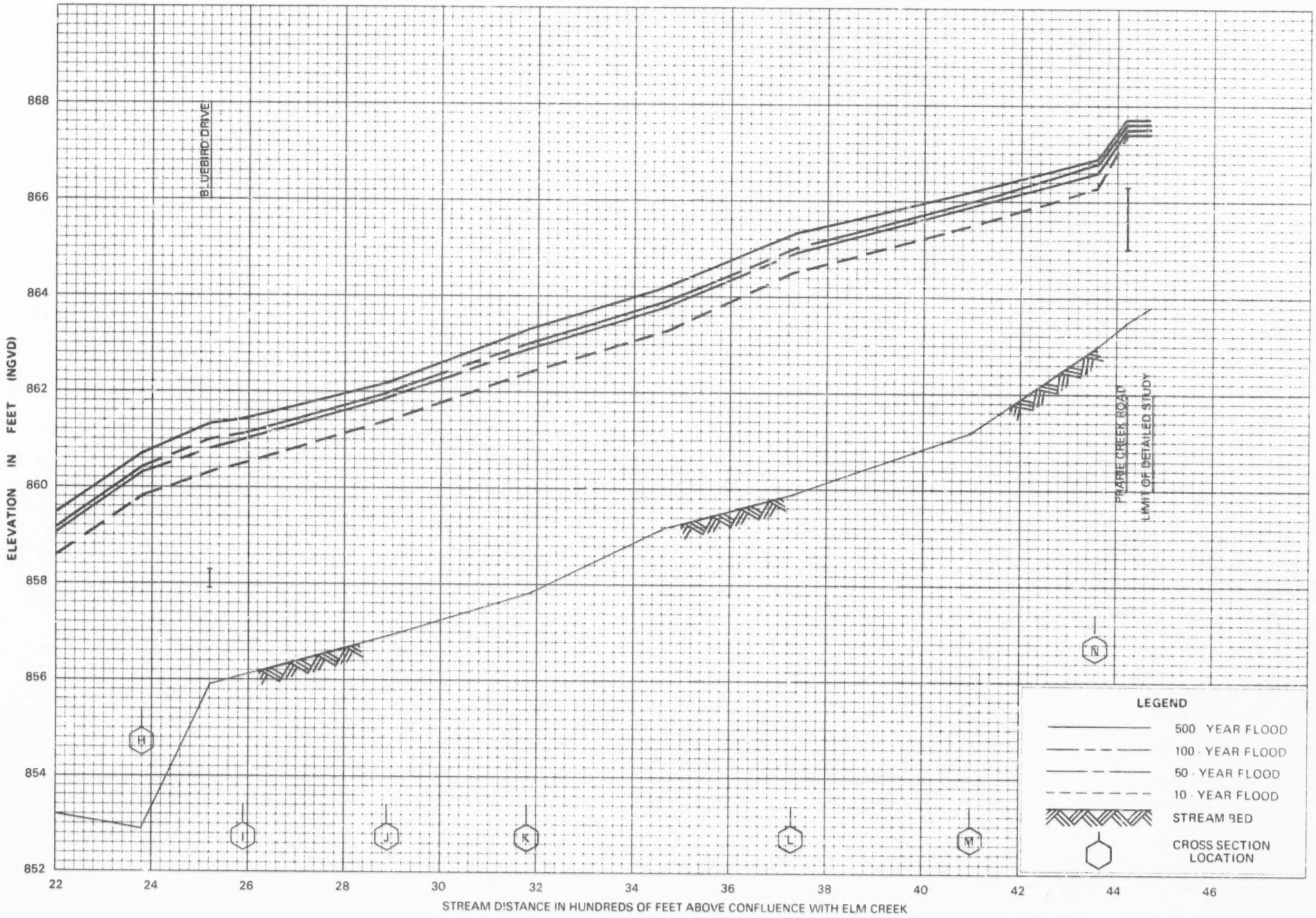
FLOOD PROFILES

STREAM EC-5

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

72P



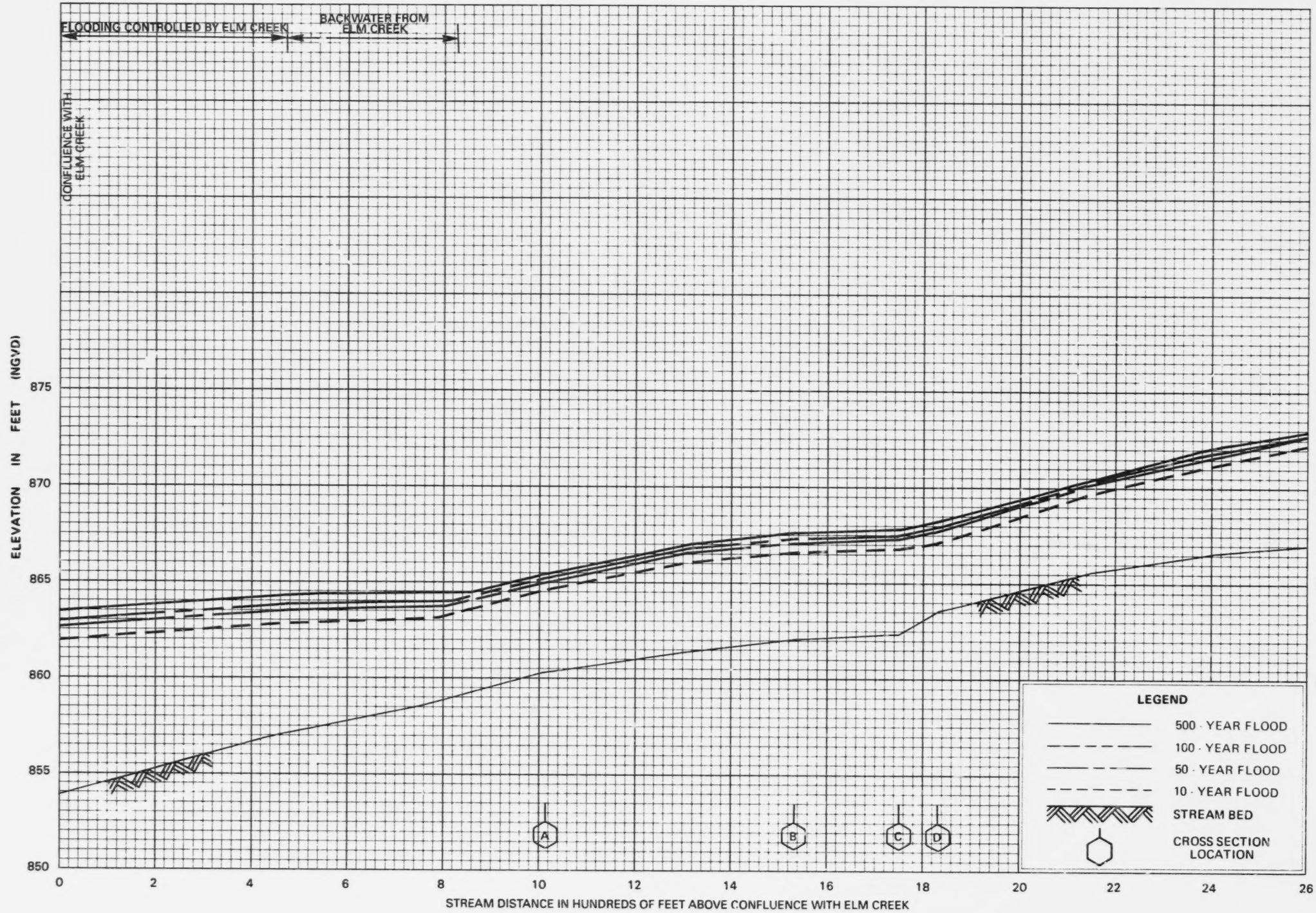
FLOOD PROFILES

STREAM EC-5

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

73P



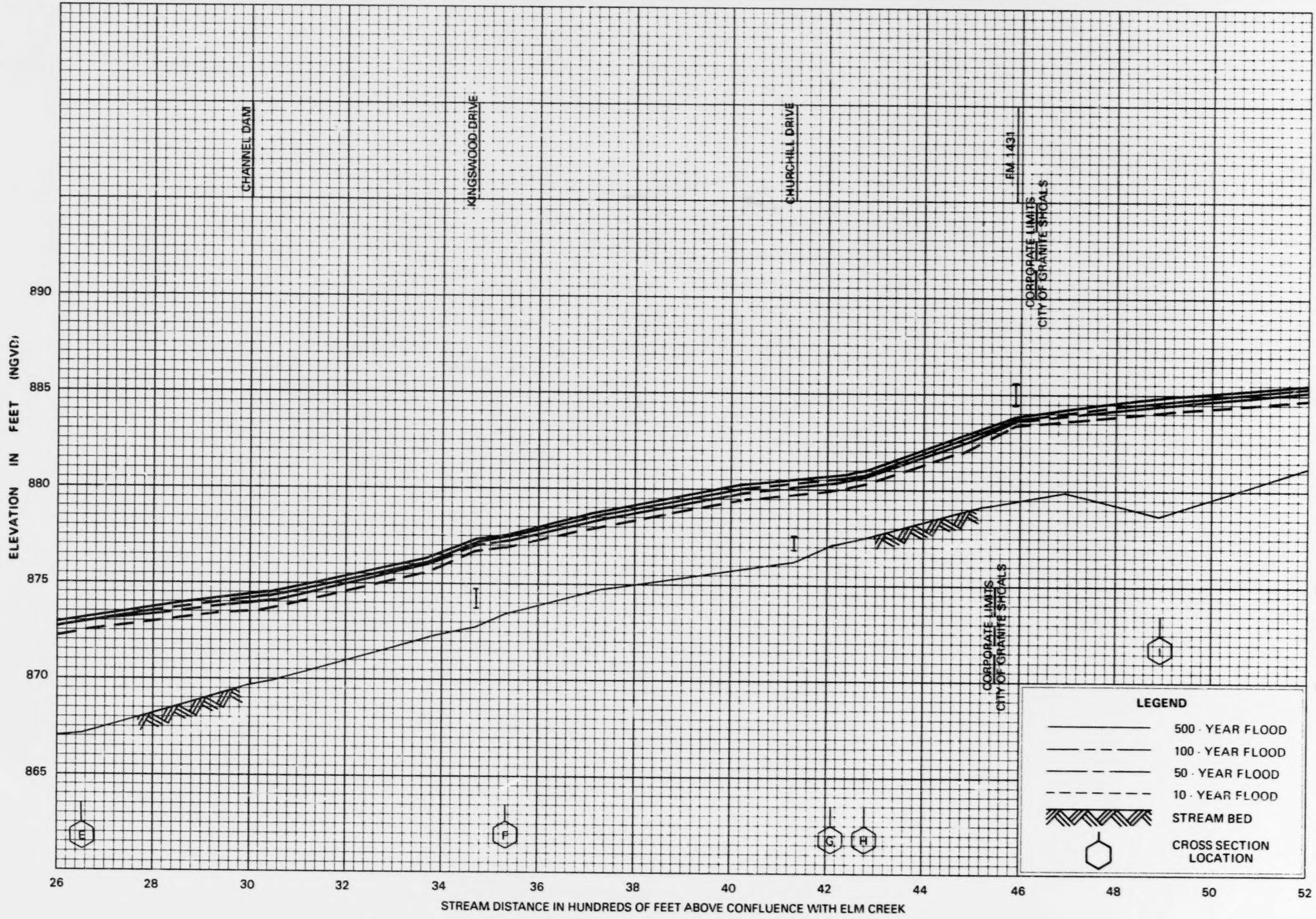
FLOOD PROFILES

STREAM EC-6

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX.
AND INCORPORATED AREAS

74P



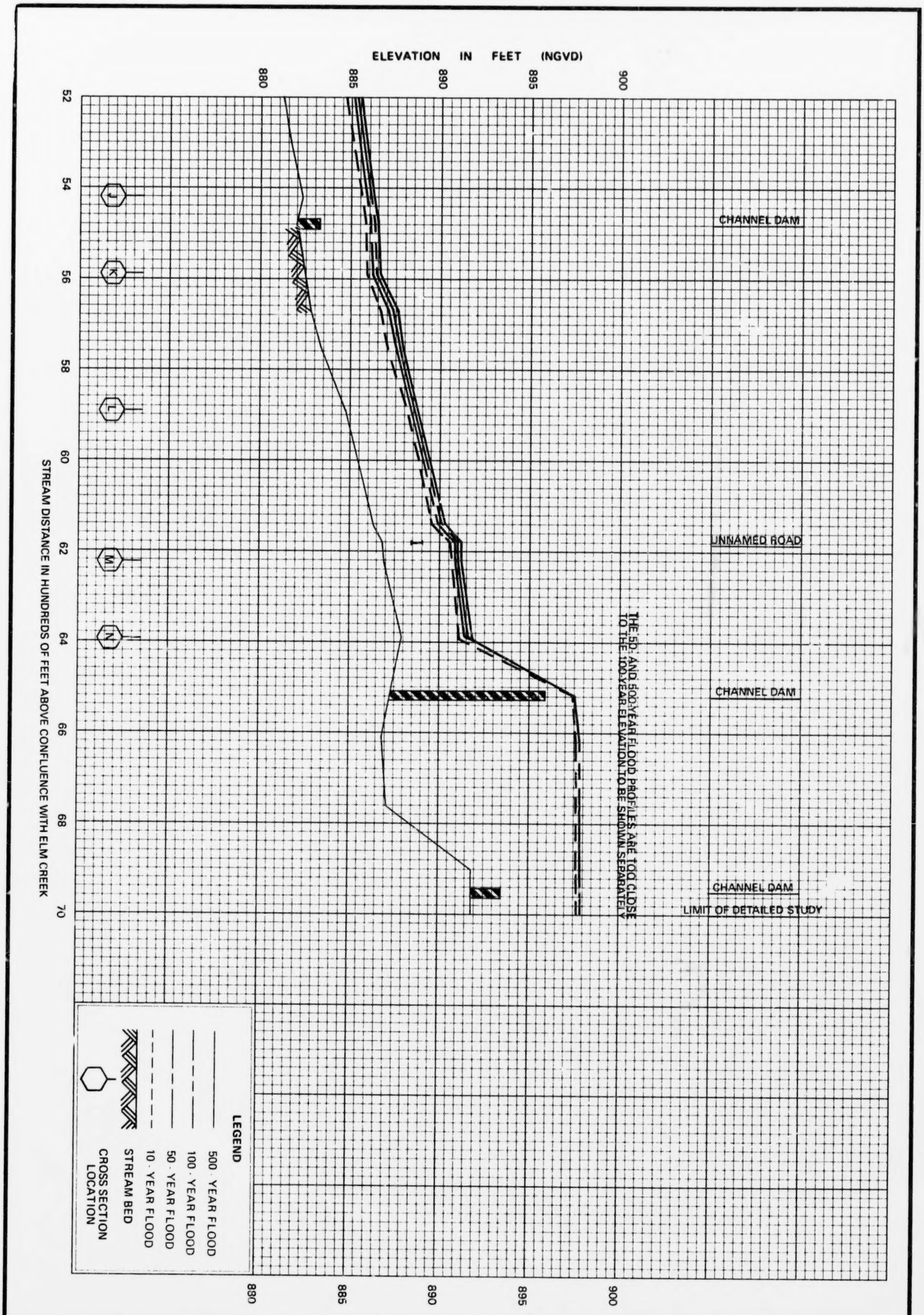
FLOOD PROFILES

STREAM EC-6

FEDERAL EMERGENCY MANAGEMENT AGENCY

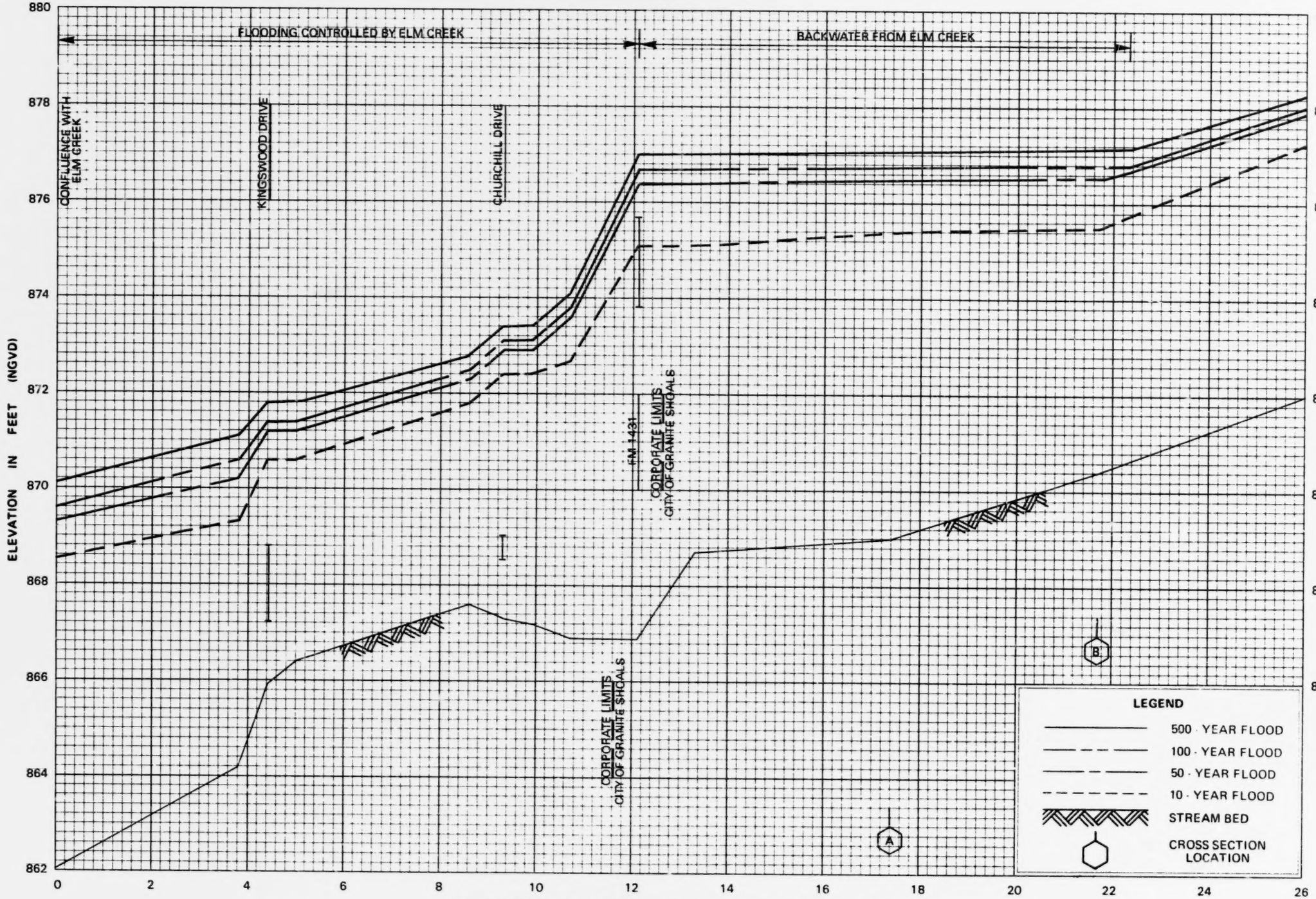
BURNET COUNTY, TX
AND INCORPORATED AREAS

75P



125

76P	FEDERAL EMERGENCY MANAGEMENT AGENCY BURNET COUNTY, TX AND INCORPORATED AREAS	FLOOD PROFILES STREAM EC-6



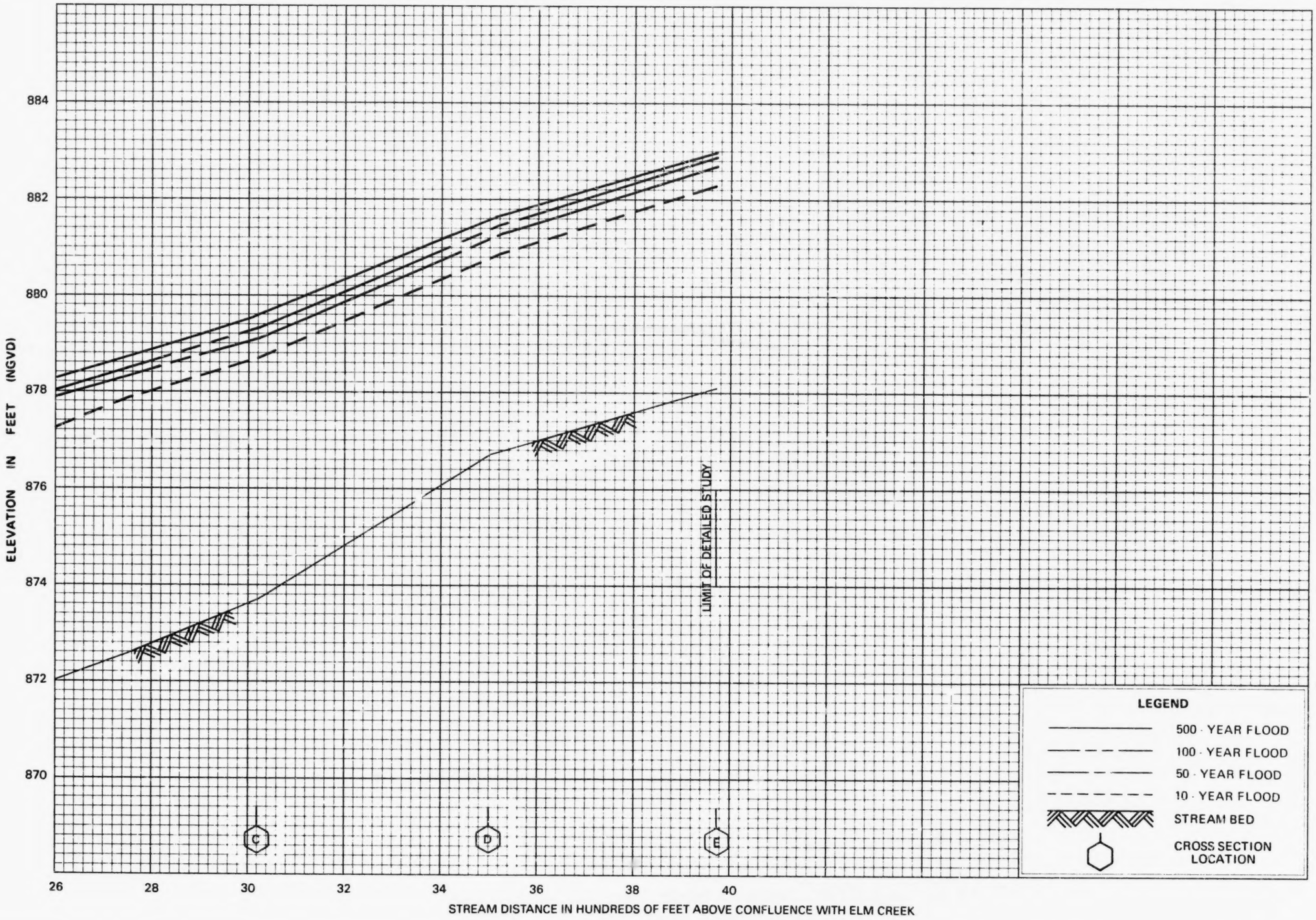
FLOOD PROFILES

STREAM EC-7

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

77P



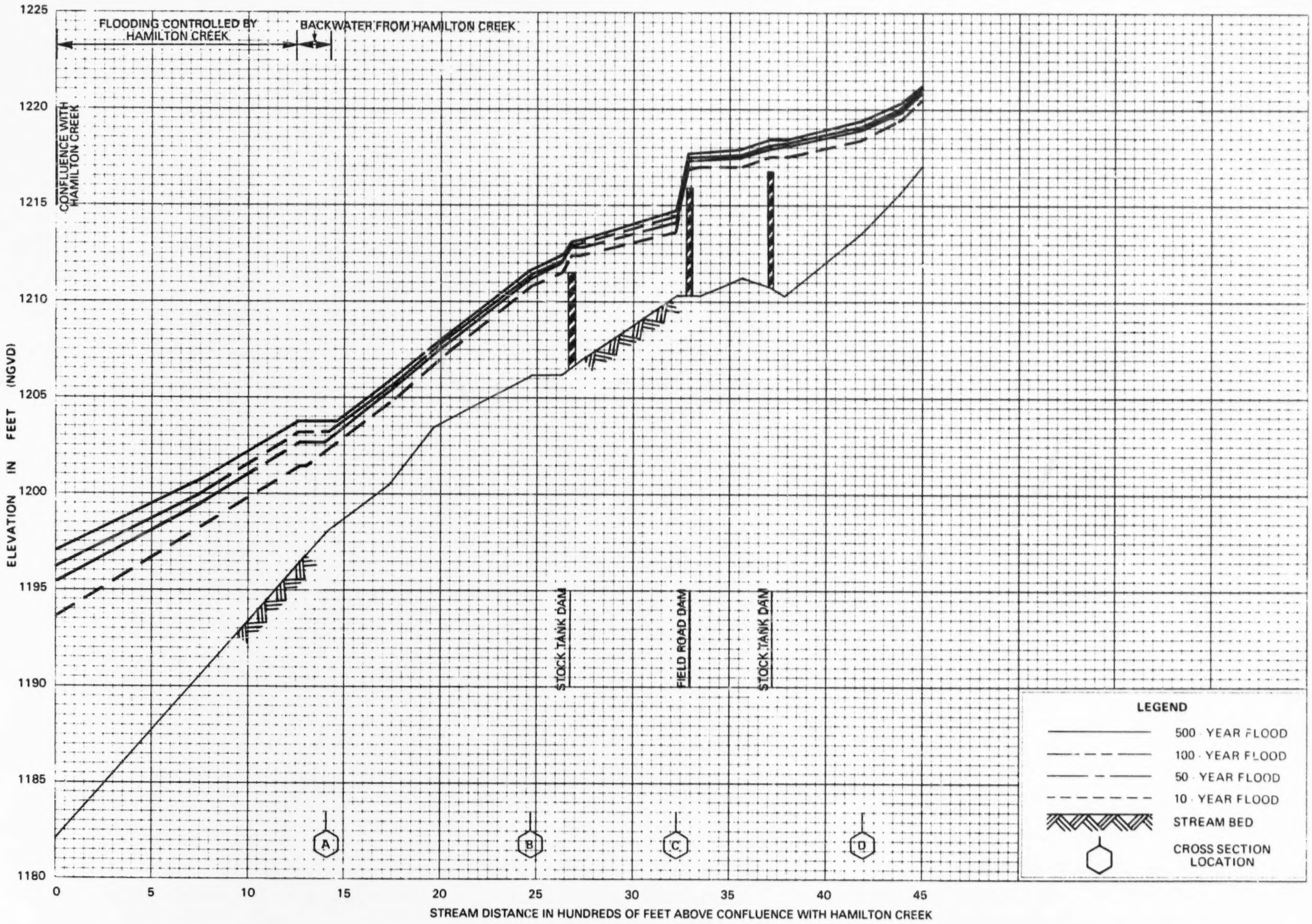
FLOOD PROFILES

STREAM EC-7

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

78P



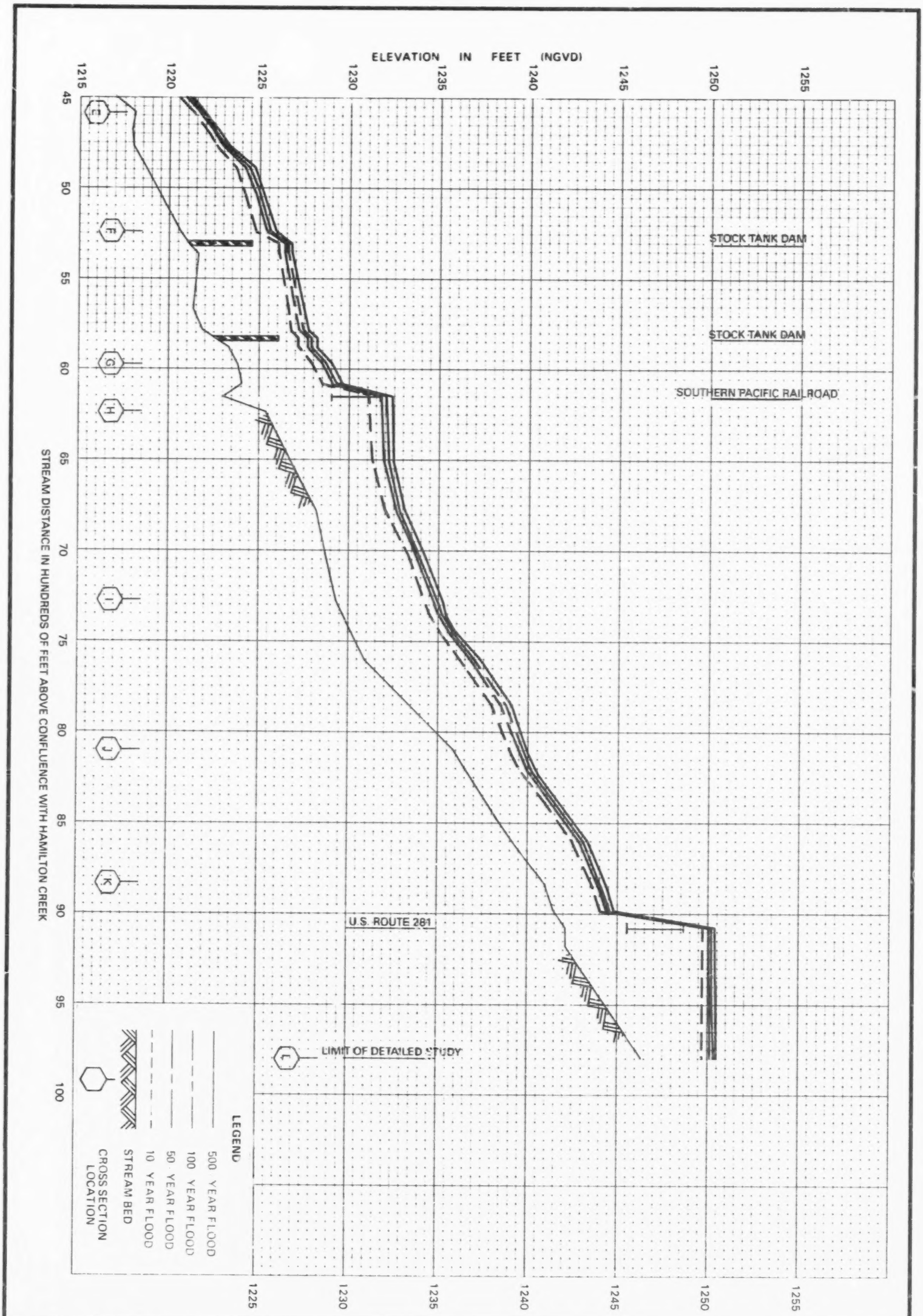
FLOOD PROFILES

STREAM HC(B)-1

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

79P



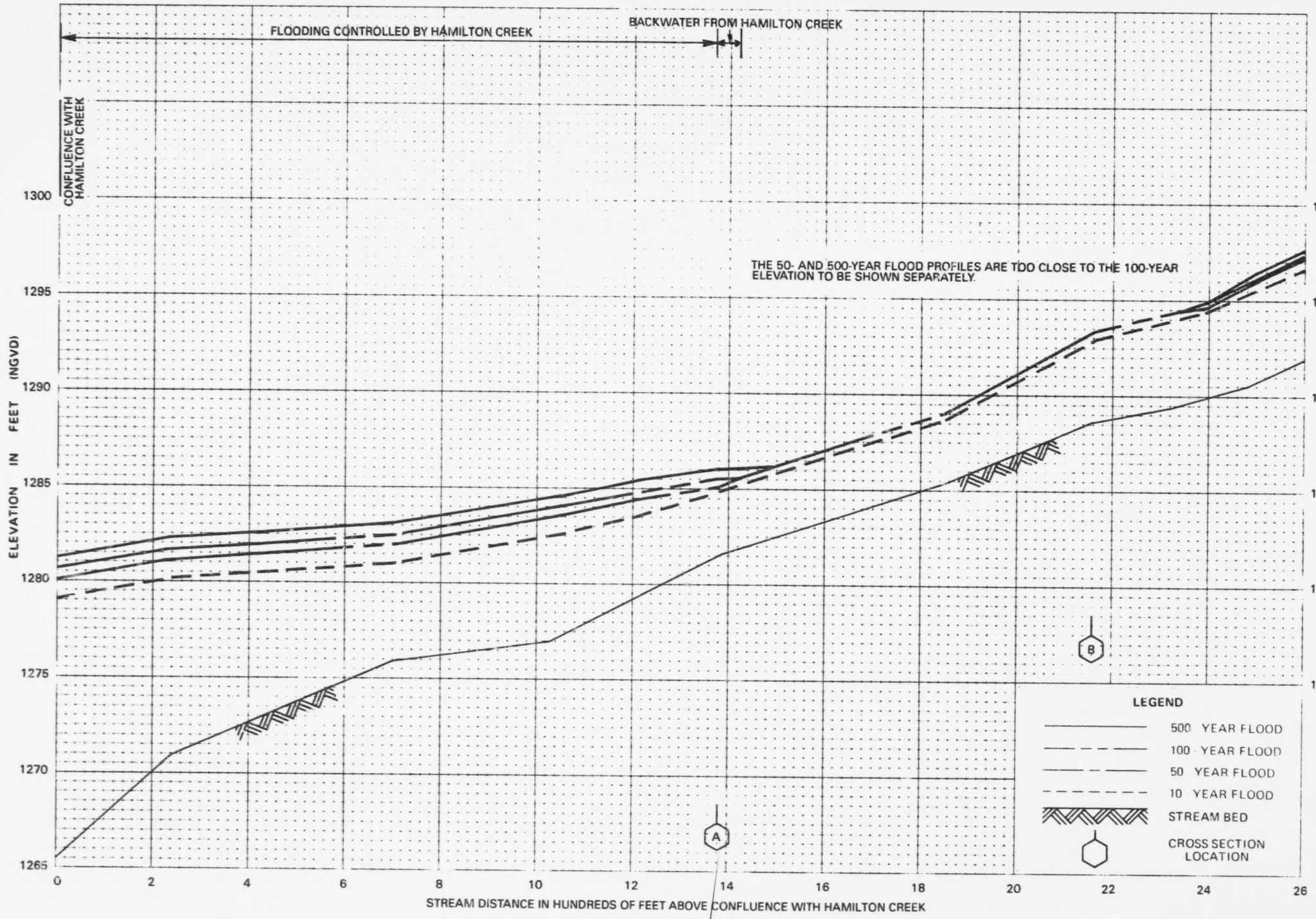
80P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOOD PROFILES

STREAM HC(B)-1



FLOOD PROFILES

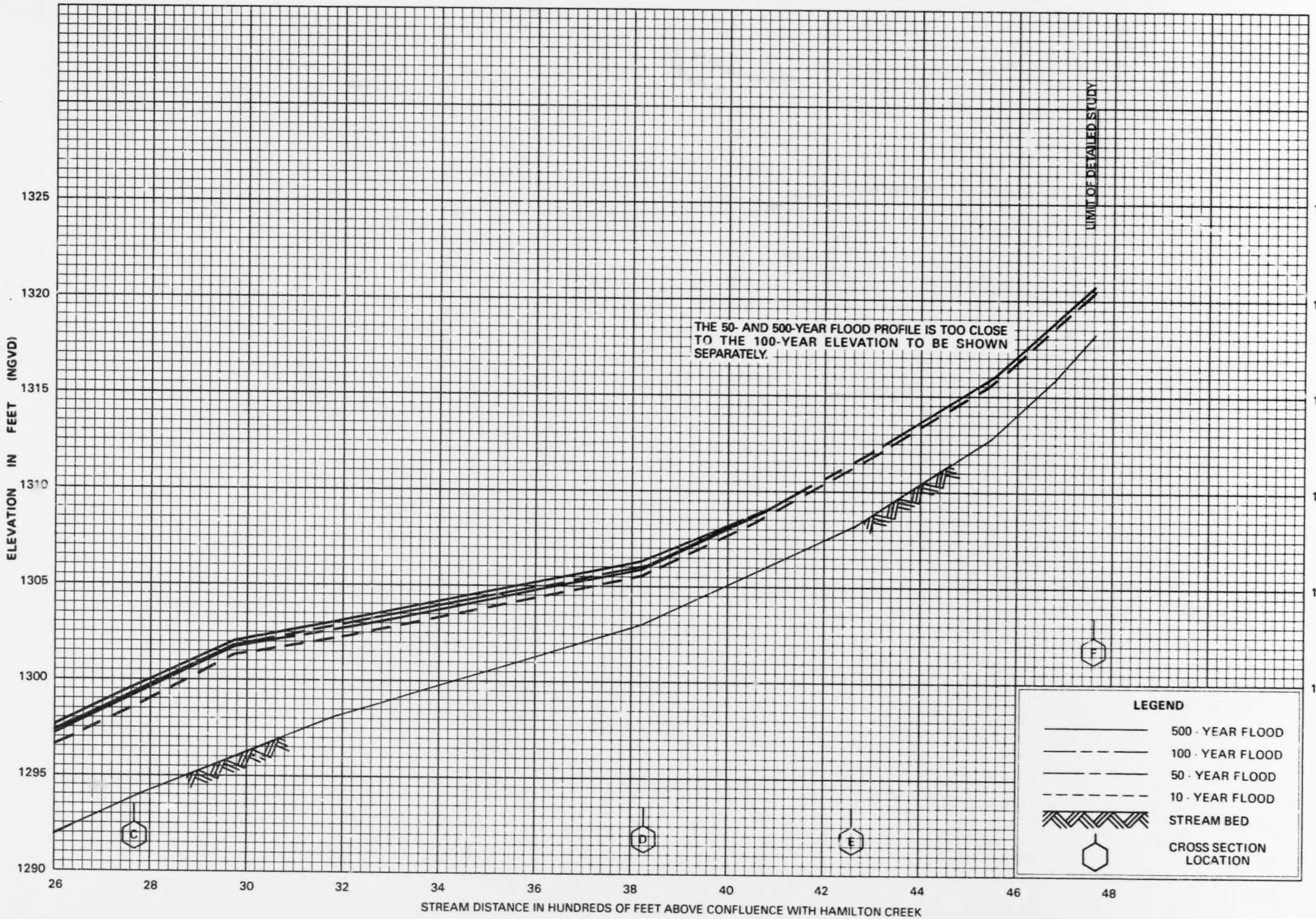
STREAM HC(B)-2

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

81P

130



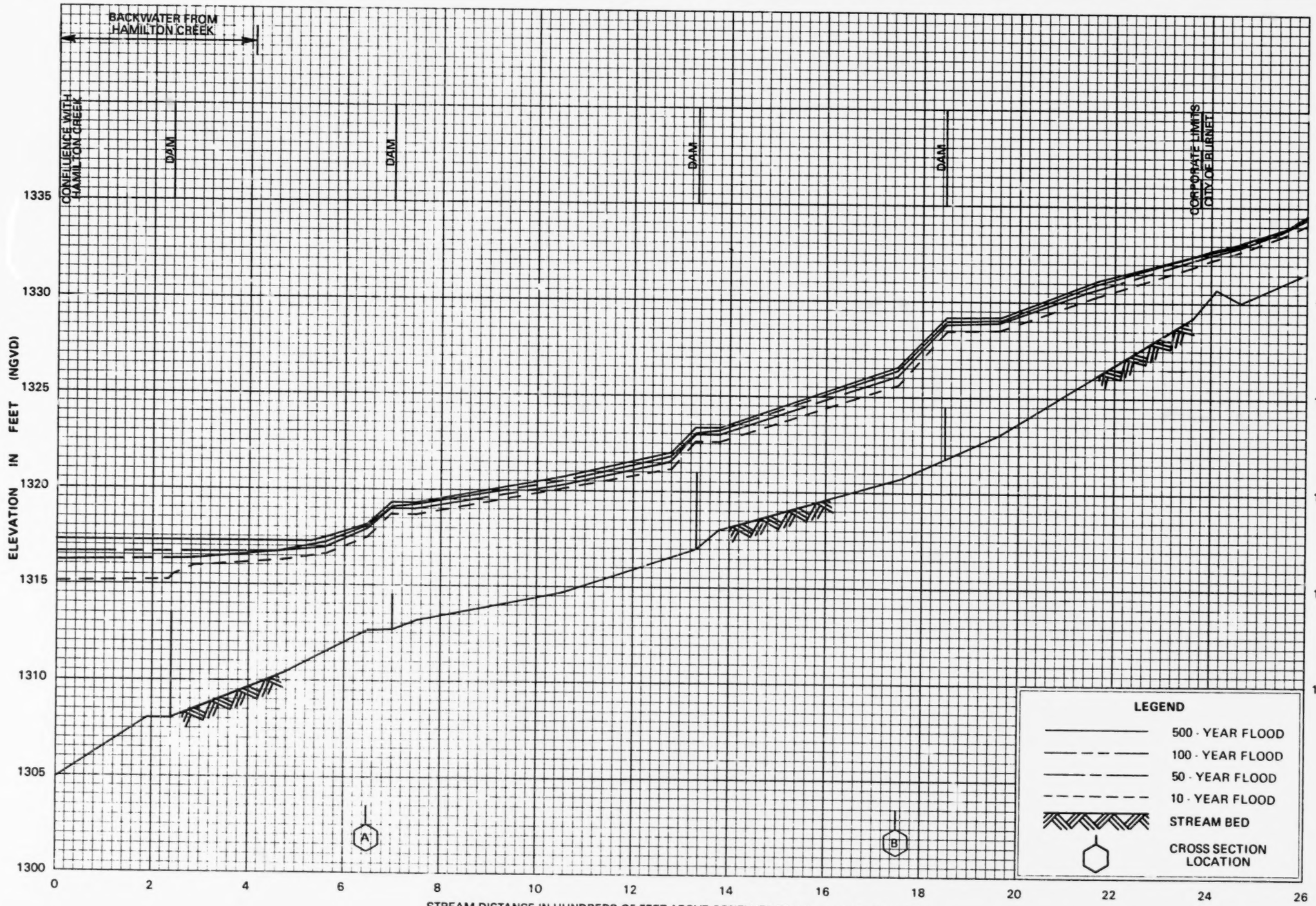
FLOOD PROFILES

STREAM HC(B)-2

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

82P



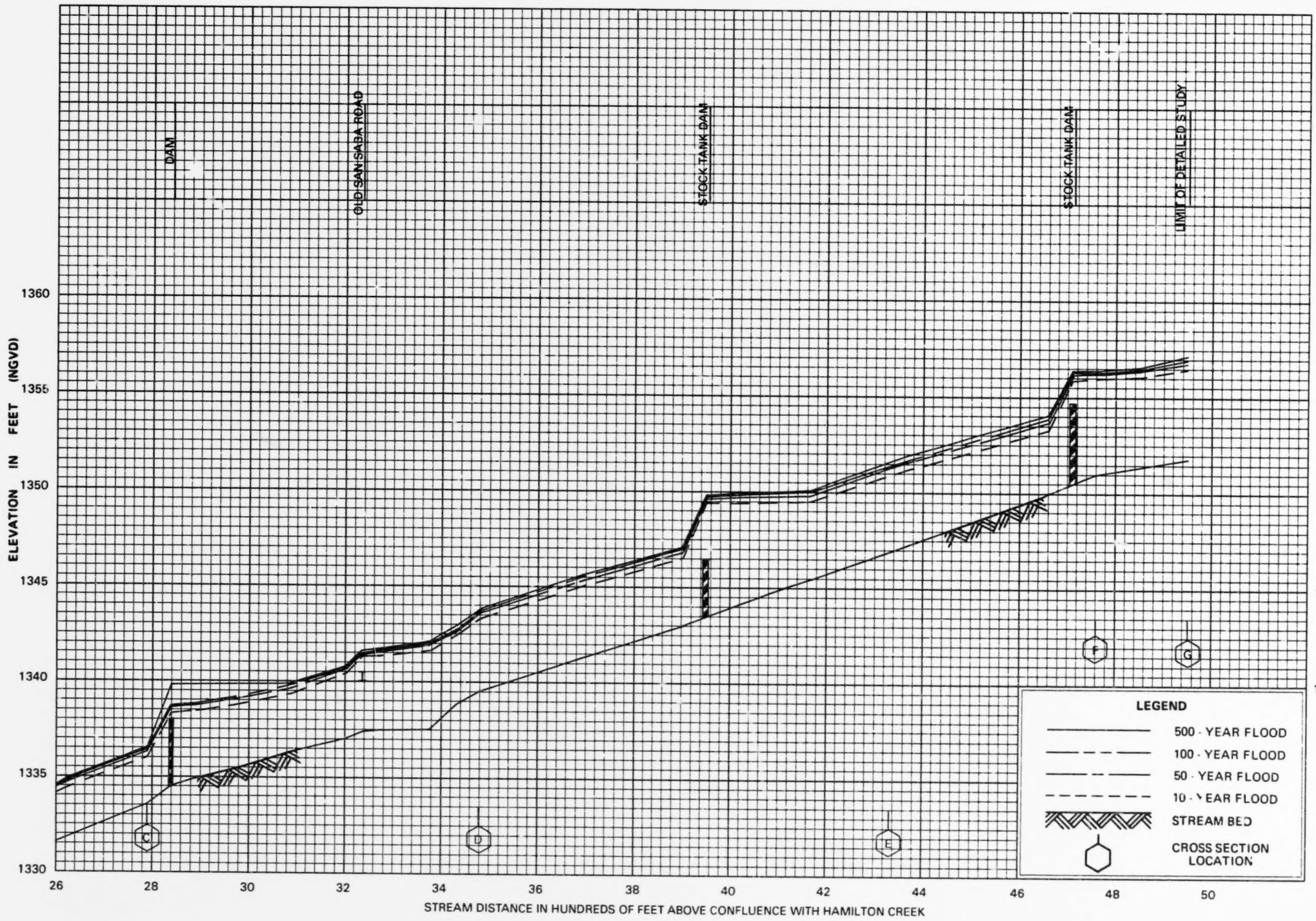
FLOOD PROFILES

STREAM HC(B)-3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

83P



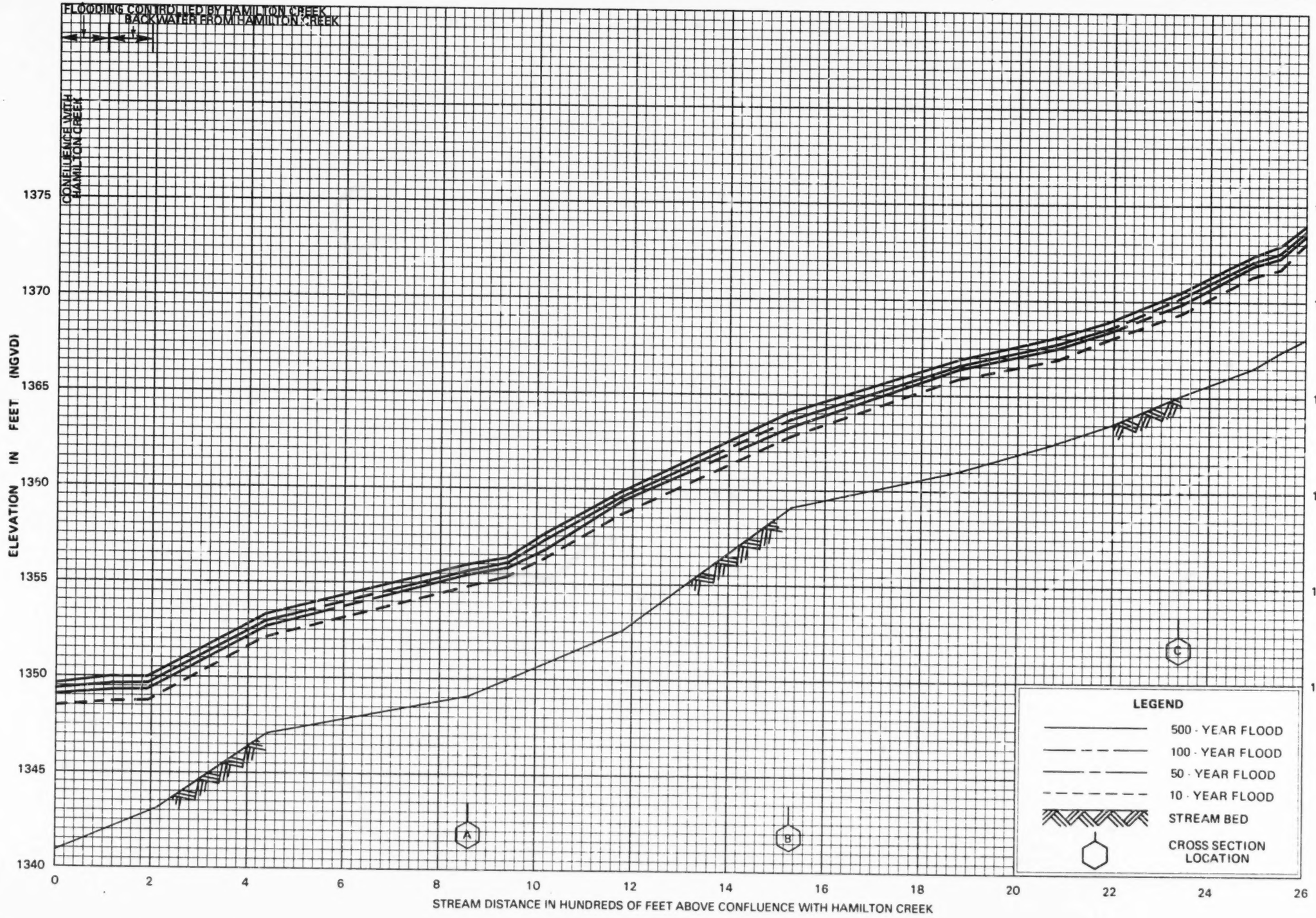
FLOOD PROFILES

STREAM HC(B)-3

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

84P



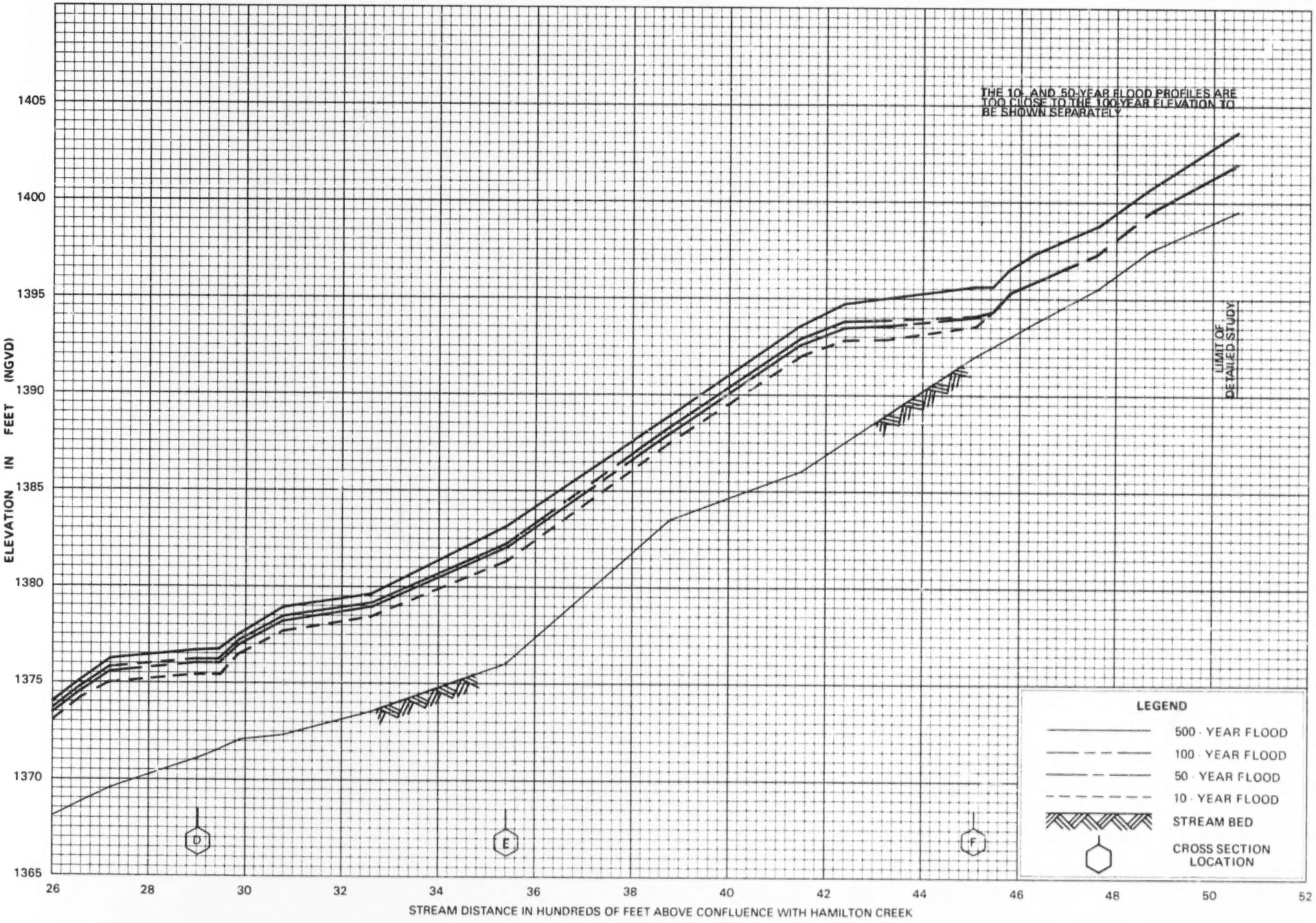
FLOOD PROFILES

STREAM HC(B)-4

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

85P



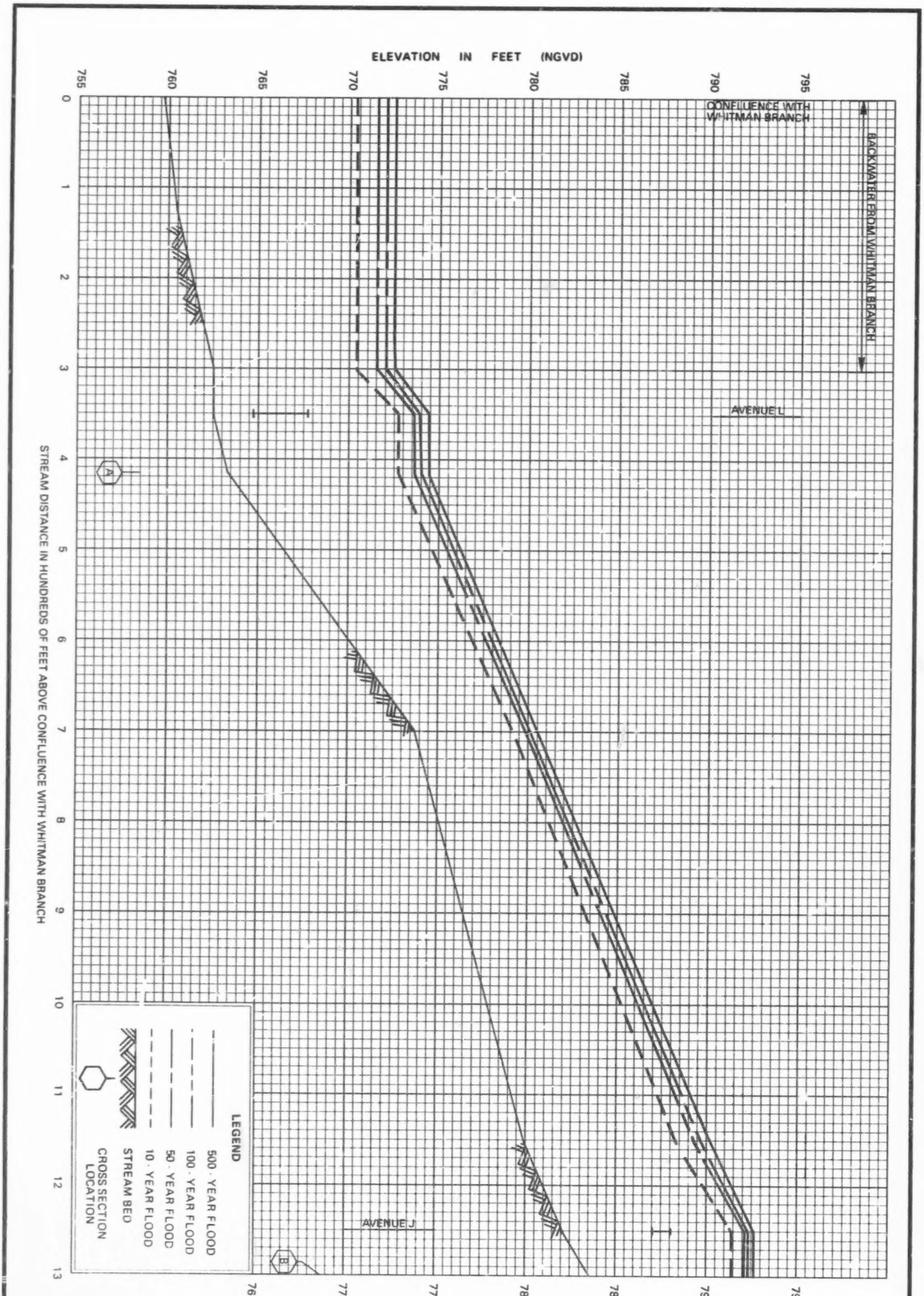
FLOOD PROFILES

STREAM HC(B)-4

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

86P



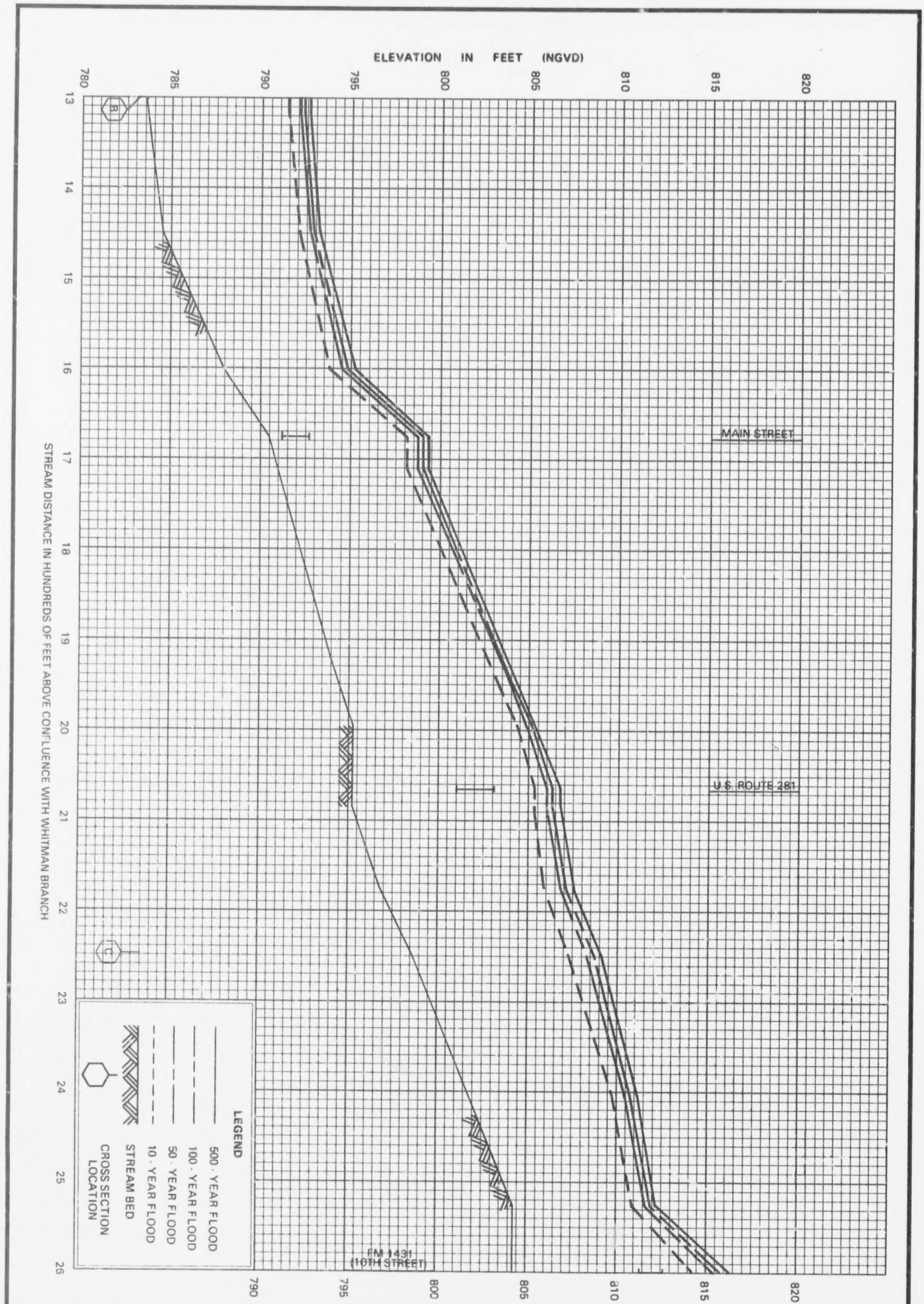
87P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX AND INCORPORATED AREAS

FLOOD PROFILES

STREAM WB-1



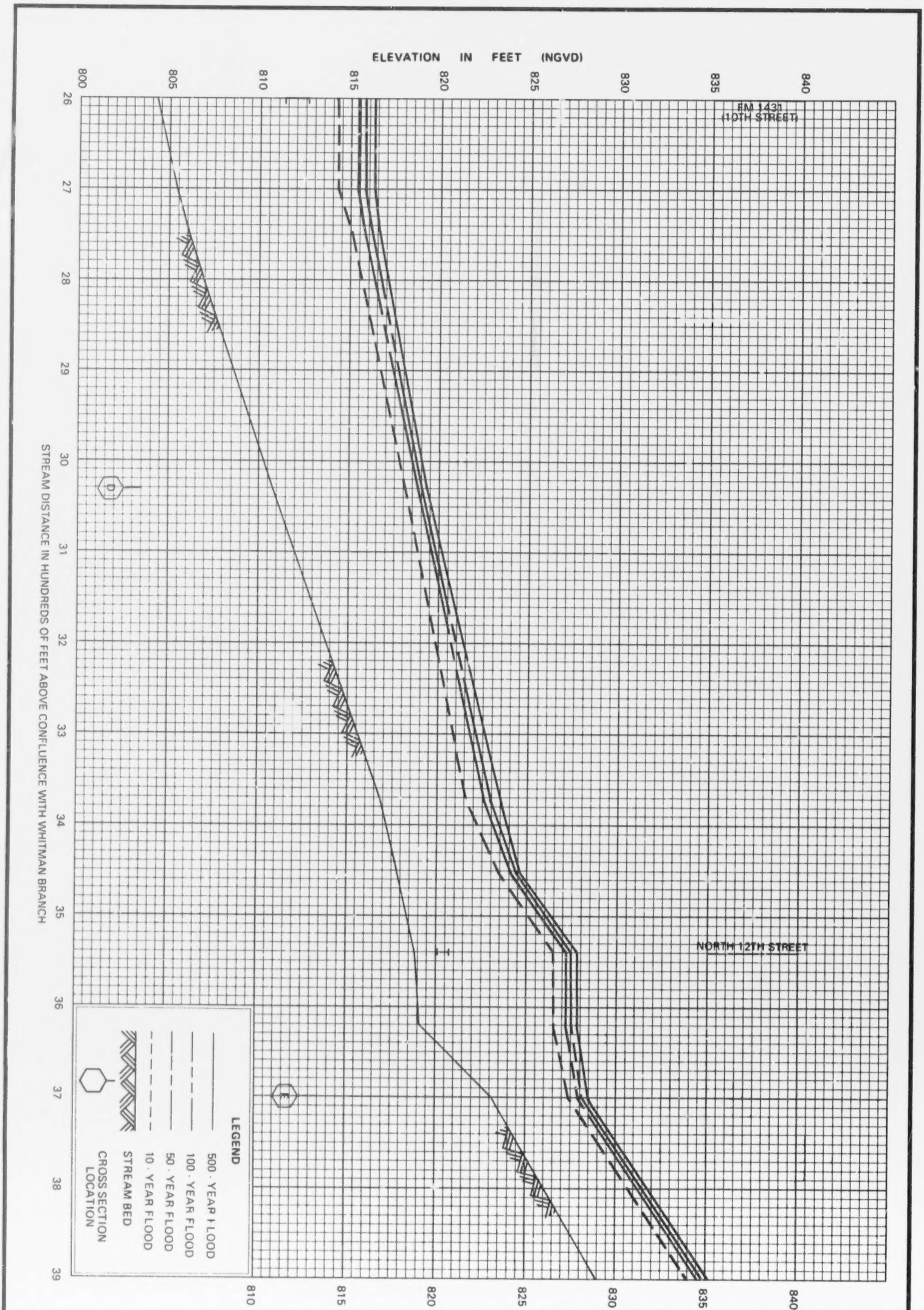
88P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

STREAM WB-1



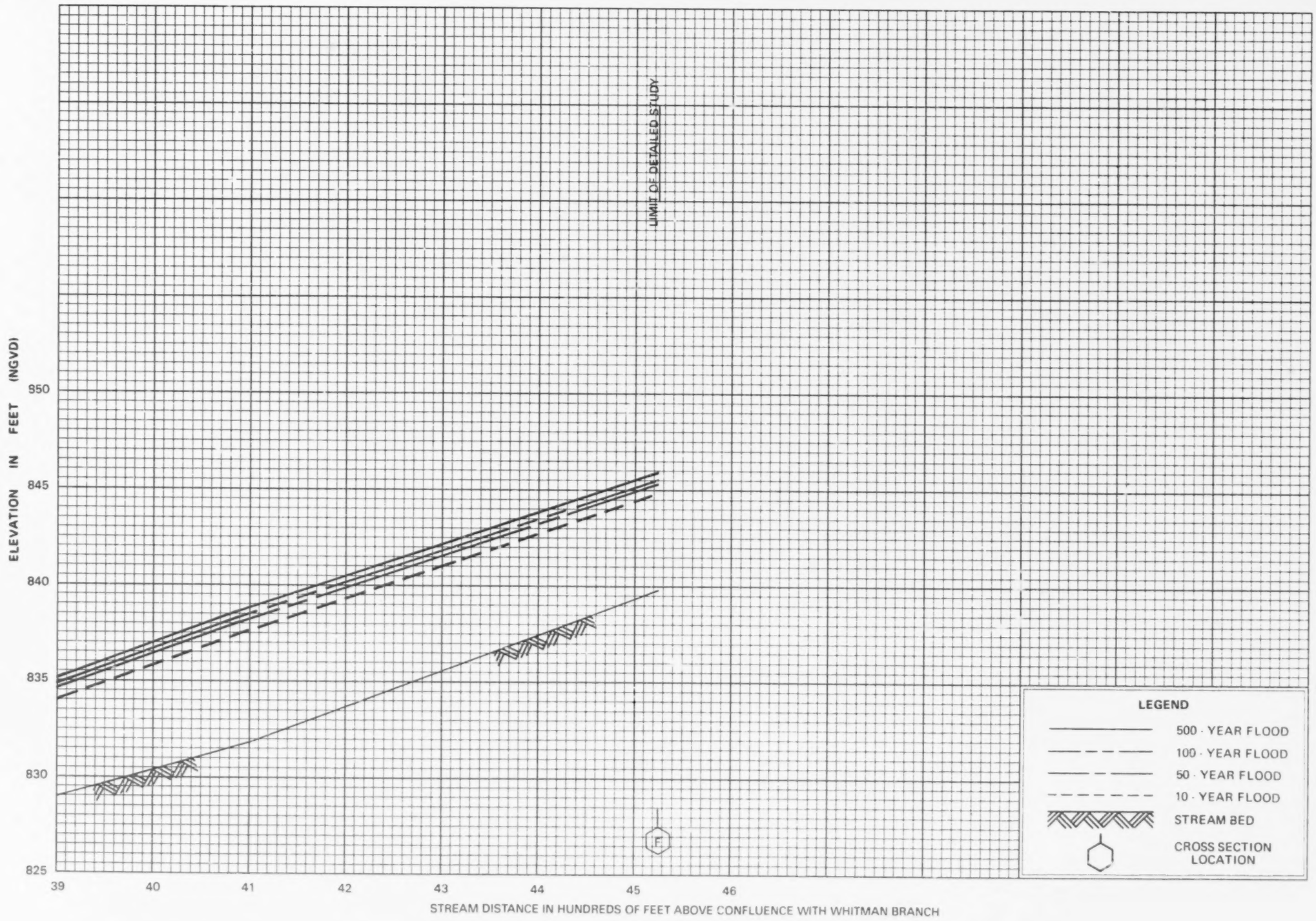
89P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

STREAM WB-1



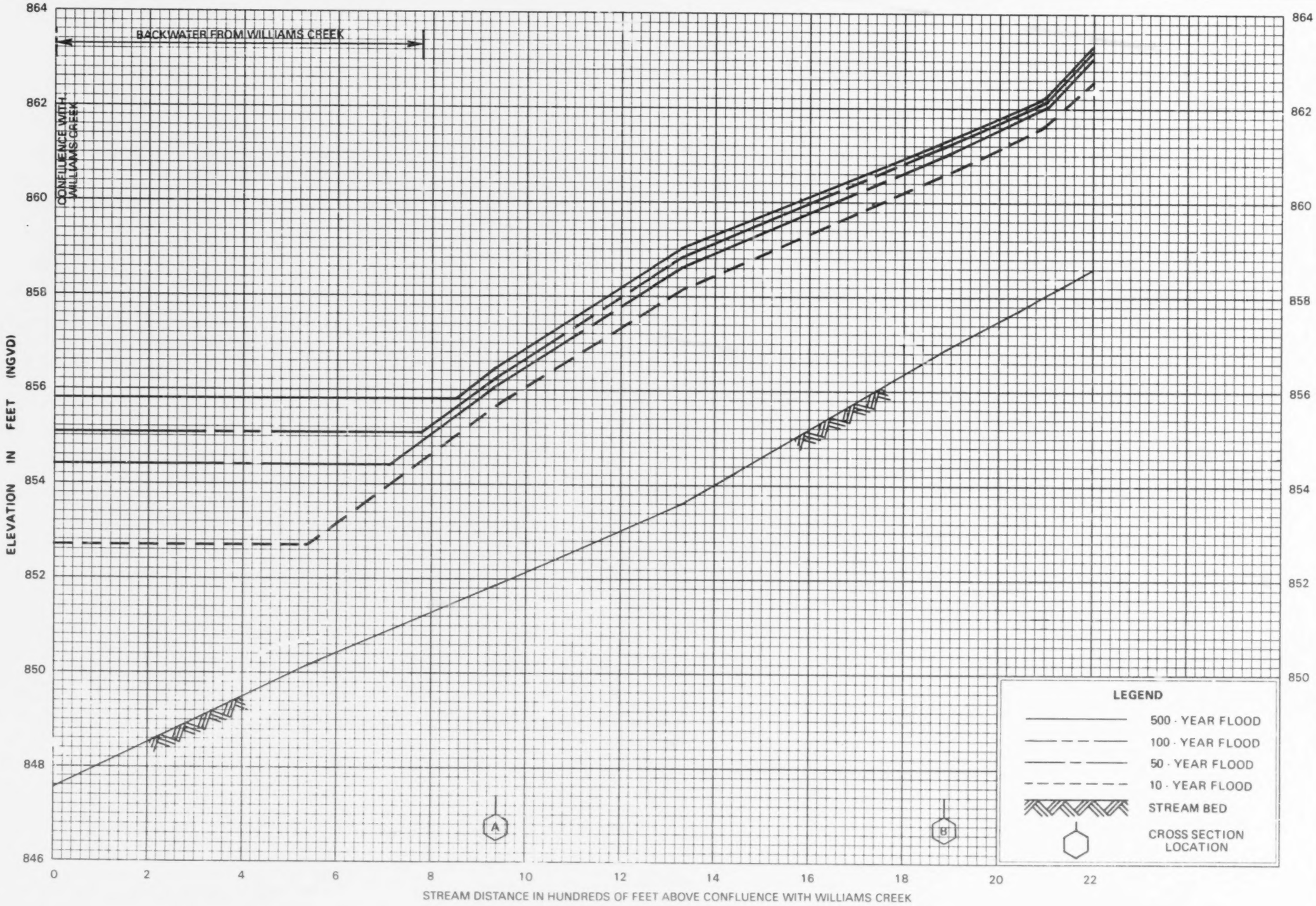
FLOOD PROFILES

STREAM WB-1

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

90P



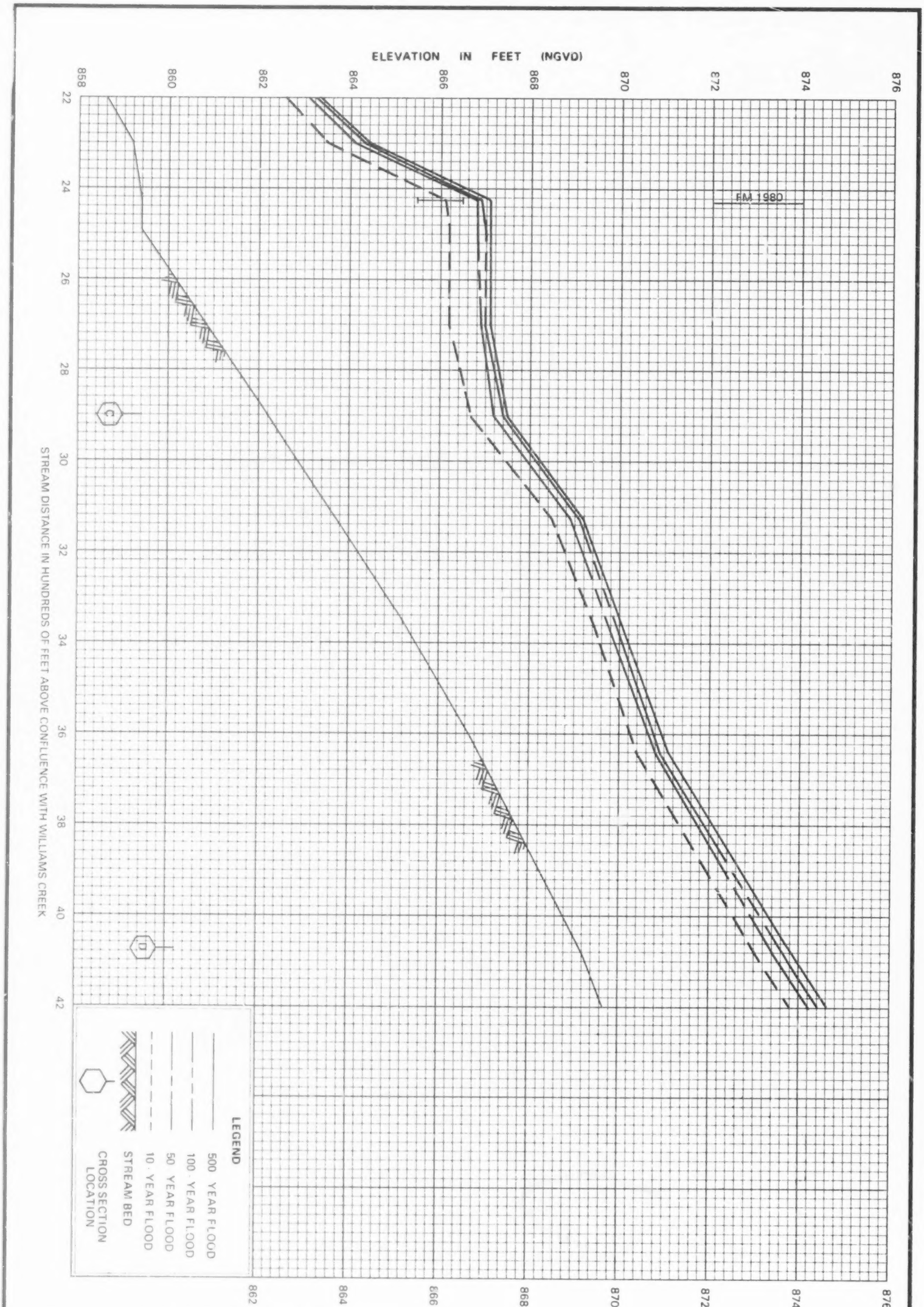
FLOOD PROFILES

STREAM WC-1

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

91P



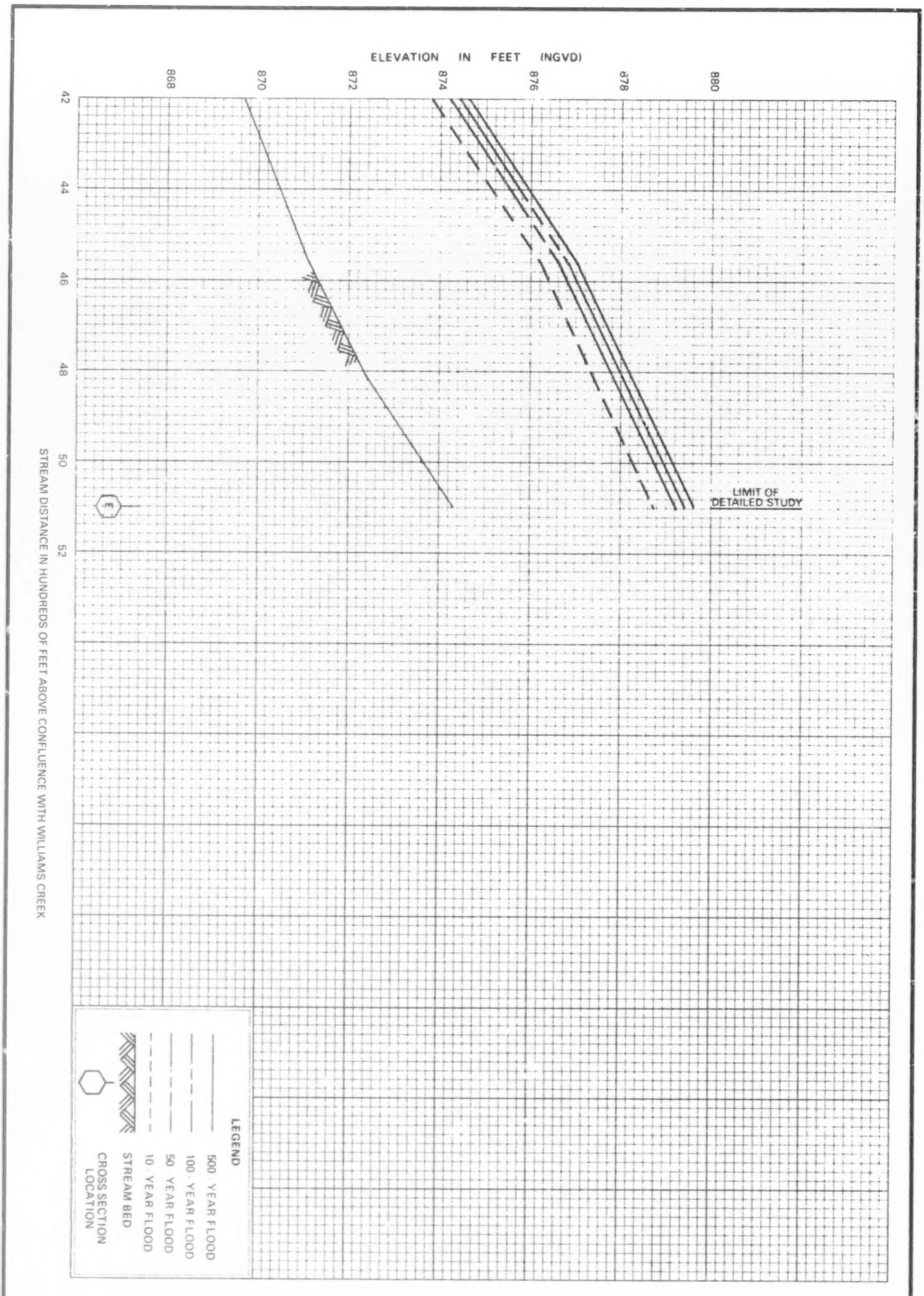
92P

FEDERAL EMERGENCY MANAGEMENT AGENCY

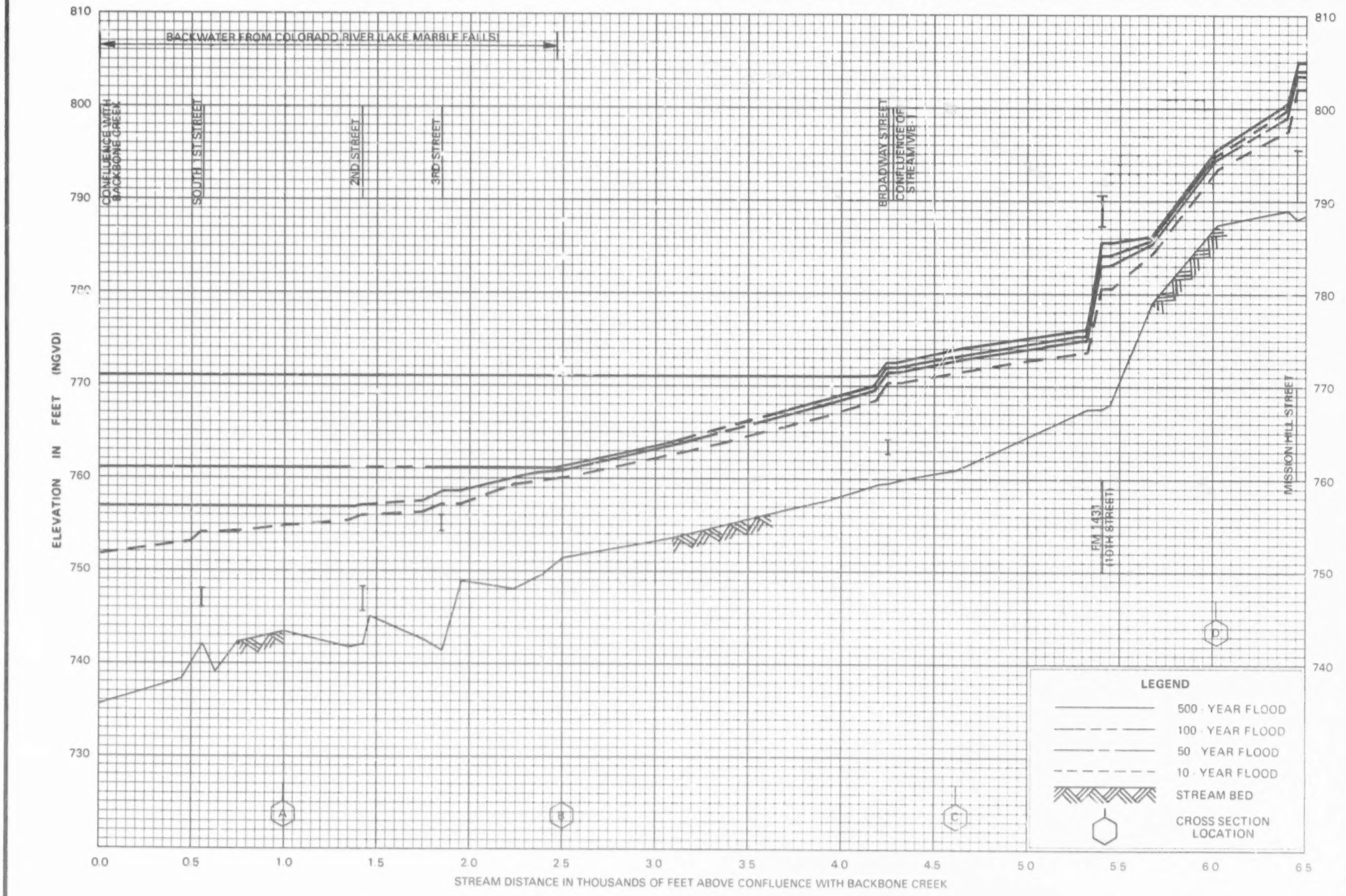
BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

STREAM WC-1



93P	FEDERAL EMERGENCY MANAGEMENT AGENCY BURNET COUNTY, TX AND INCORPORATED AREAS	FLOOD PROFILES STREAM WC-1



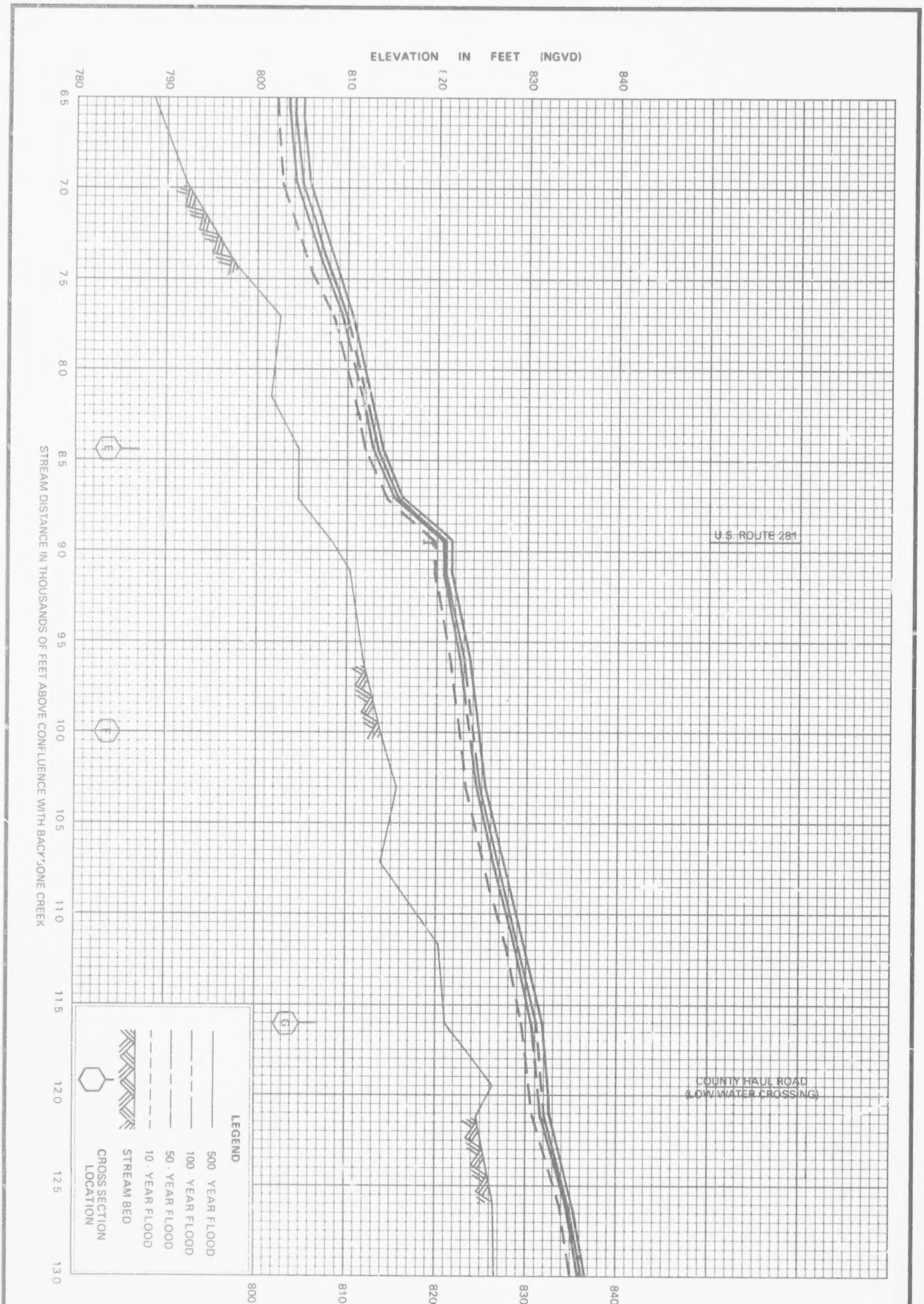
FLOOD PROFILES

WHITMAN BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

94P

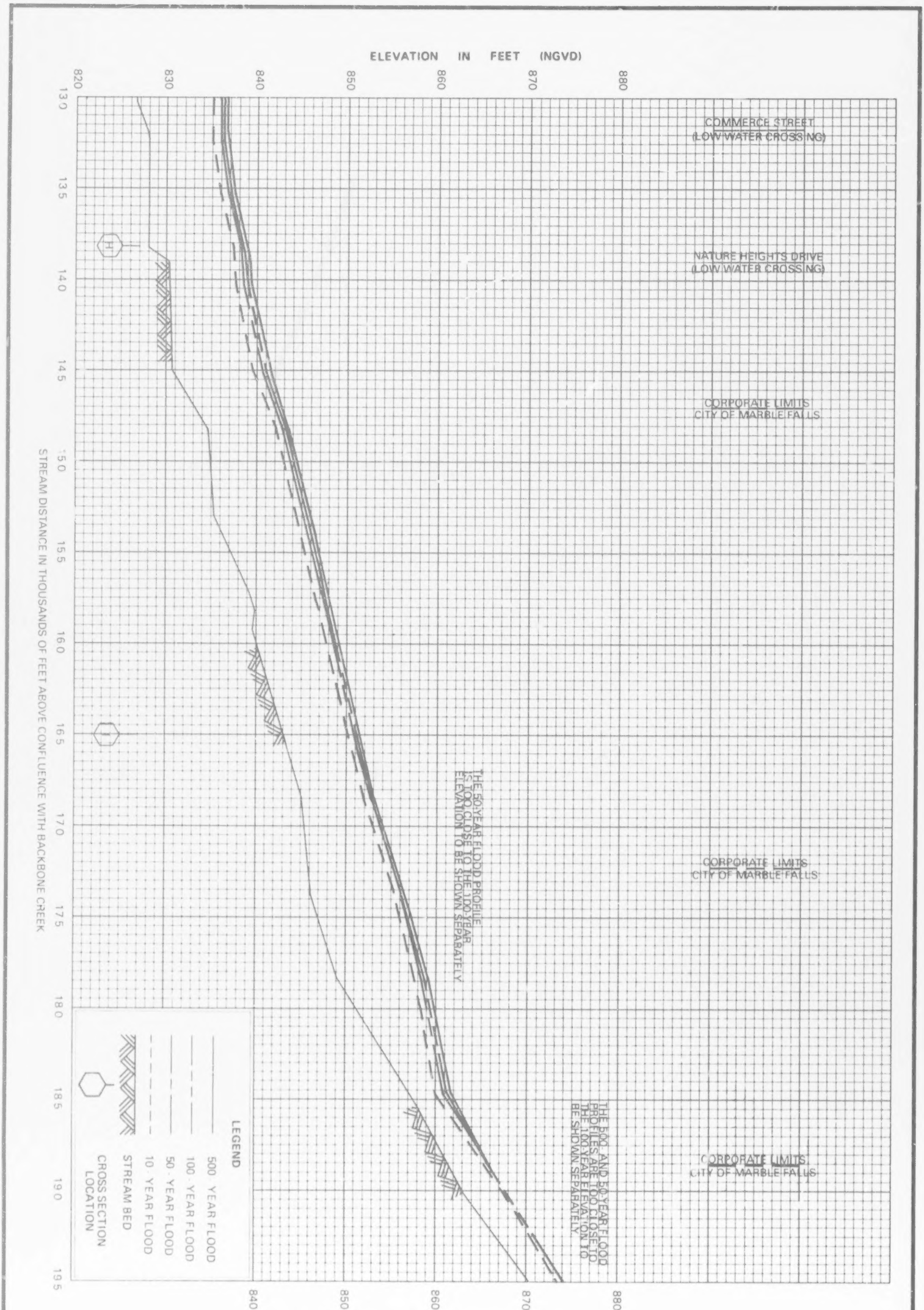


FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

WHITMAN BRANCH



96P	FEDERAL EMERGENCY MANAGEMENT AGENCY BURNET COUNTY, TX AND INCORPORATED AREAS	FLOOD PROFILES WHITMAN BRANCH

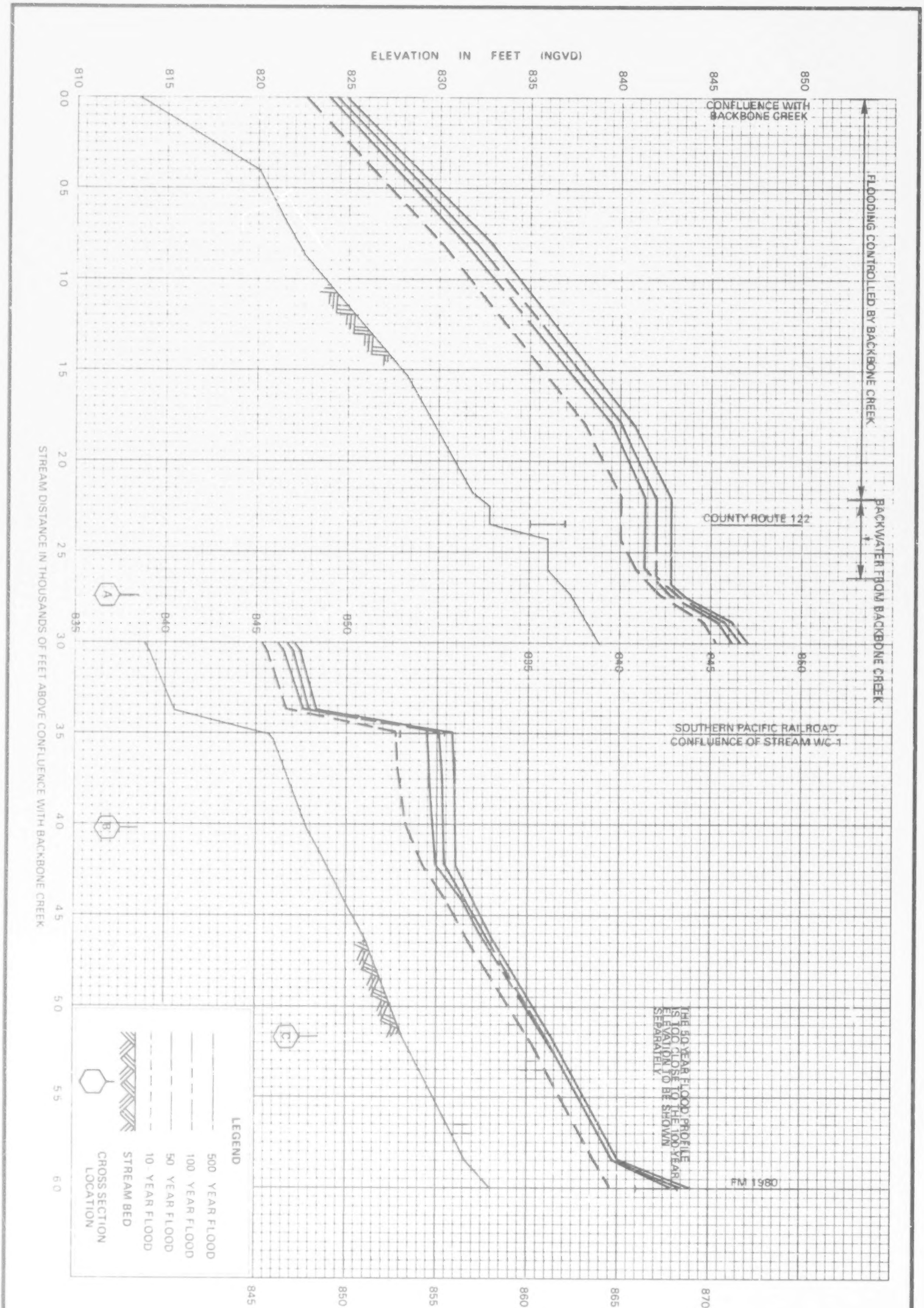
FLOOD PROFILES

WHITMAN BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

97P



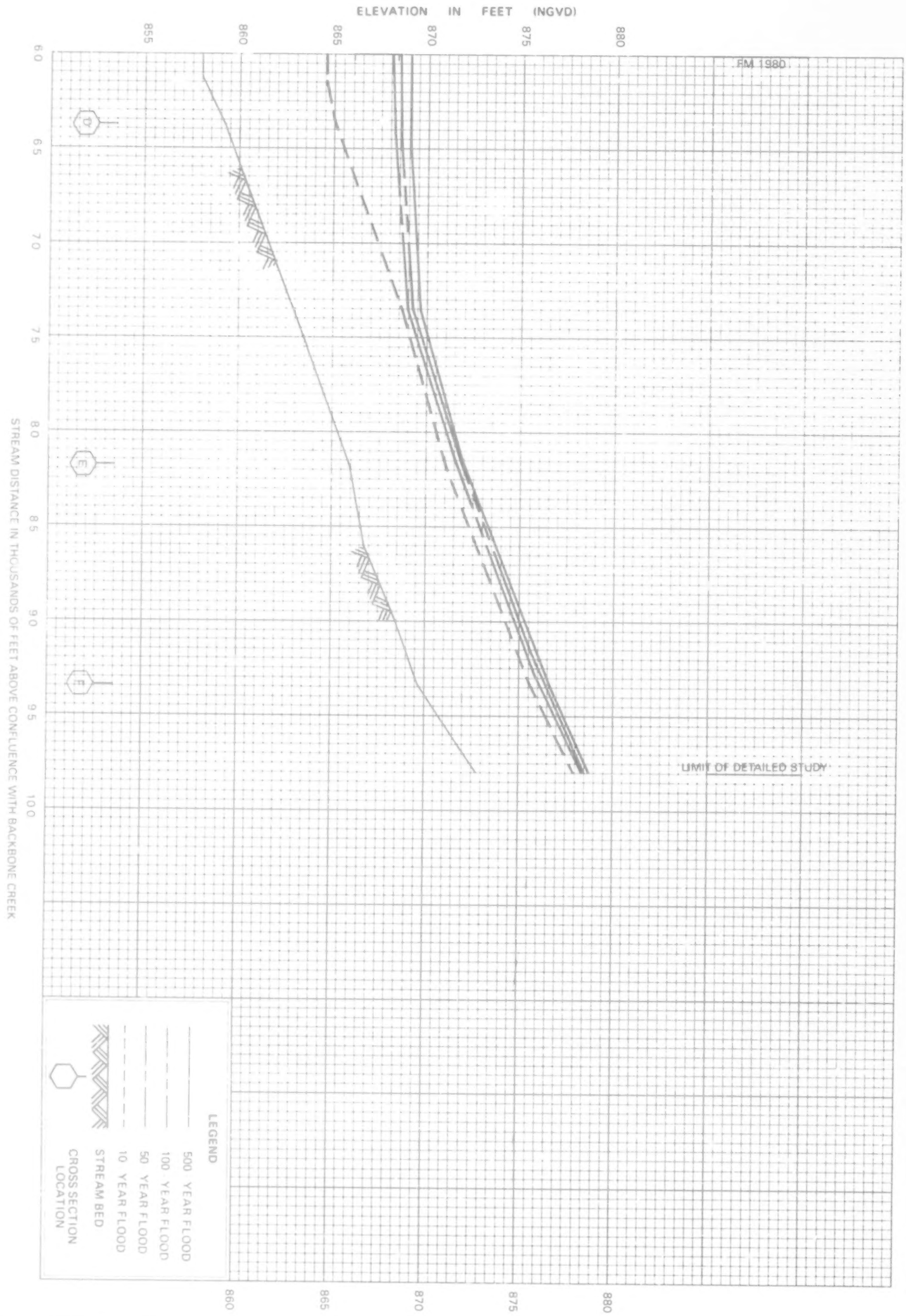
98P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

WILLIAMS CREEK



99P

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURNET COUNTY, TX
AND INCORPORATED AREAS

FLOOD PROFILES

WILLIAMS CREEK